

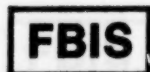
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USSR Report

NATIONAL ECONOMY



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9 JANUARY 1987

USSR REPORT

NATIONAL ECONOMY

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RESOURCE UTILIZATION, SUPPLY

CONSERVATION TO BECOME INTEGRAL PART OF INVESTMENT PROGRAM

Moscow PLANOVoye KHOZYAYSTVO in Russian No 9, Sep 86 pp 28-37

[Article by V. Korolev, deputy department chief of USSR Gosplan: "Investment Activity and Economy of Material Resources"]

[Text] It is pointed out in the materials of the 27th CPSU Congress that an effective instrument for implementing the party's economic strategy is the active investment policy which is directed toward acceleration of scientific and technical progress and a qualitative transformation of the material base and the structure of production [footnote 1].

Investment activity is a most important factor in increasing the socioeconomic results of socialist expanded reproduction and the growth rates of the economy. The restructuring of the economic mechanism and system of management in the national economy which is being conducted at the present time touches on all stages of the investment process: scientific research; designing of machines, equipment, enterprises, buildings and structures; manufacture of technological equipment; construction and installation work; assimilation of planned capacities and production's attainment of the planned technical and economic indicators. Management agencies and collectives of associations and enterprises are faced with a task: to provide for a radical rise of the technical level and the qualitative and operational characteristics of reconstructed and newly created fixed capital and production capacities on the basis of the application of modern progressive technologies, machines, equipment, and industrial construction systems, as well as an all-round reduction of the expenditure of the material and labor resources.

Carrying out this task presupposes solving theoretical and methodological problems involved in comprehensive planning of investment activity as a unified whole, the most important goal of which should be the fulfillment of the program requirements of the CPSU concerning the direction of scientific and technical progress toward radical improvement of the utilization of natural resources, raw materials, processed materials, fuel and energy [footnote 2].

Questions of efficient utilization, economy and norm setting for material resources in production, construction and in the activity of design and planning organizations have been extensively elucidated in modern economic and

scientific-technical literature and in methodological documents for planning the national economy and its branches.

But there are significant reserves for improving the planning of investment programs and their material and technical support. These are conditioned to a significant degree by the fact that in the organization, technology and methods of planning and management, for a long period of time we have practically not taken into account tendencies toward the exhaustion of factors of intensive development of the economy and have not devoted the necessary attention to control of the process of increasing the effectiveness of the utilization of material resources.

As a result, the established goals of increasing the effectiveness of public production and reducing its material-intensiveness on the basis of the introduction of the achievements of scientific and technical progress have not yet been fully realized in planning and economic activity. The responsibility of the participants in the investment process is unjustifiably separated from the fulfillment of volume indicators and is not sufficiently coordinated with the level of expenditures and effectiveness of the created fixed capital and capacities, and the physical and value indicators of the corresponding sections of the plan are not always coordinated. Concern for economizing on materials necessary for carrying out the plan is entirely placed on the shoulders of the performers of construction and installation work, who, in turn, do not take responsibility for the material-intensiveness of construction products, they are practically not limited by any commitments in their demands on planning agencies for volumes of funds to be allotted, and with the clients they enter into the role of critics of planning decisions.

These shortcomings and differences have become a barrier on the path to economizing on material resources. How can this barrier be removed?

In the first place, it is necessary to clearly delimit the responsibility of participants in the investment process and planning agencies.

Planning agencies, in our opinion, should be responsible for making sure that the normative base of planning, balances and plans for the distribution of material resources reflect the structure policy in the investment sphere and reserves for economy based on the introduction of the achievements of scientific and technical progress.

Under conditions whereby the assignments for economy and indicators of the expenditure of material resources for various consumers are established in the plan, the ministries and departments are obliged to plan the concrete volumes, the structure of production (construction) and the introduction of the achievements of scientific and technical progress, using resource limitations as state guidelines for the effectiveness of the utilization of raw materials, processed materials, fuel and energy.

The efforts of scientific and design subdivisions, enterprises and management agencies should be directed toward economizing on resources. The major role here should be played by ministries and departments that plan the development of the branches. Thus it would be possible in practice to realize the

methodological provisions to the effect that the scientific and technical revolution should encompass the entire system of productive forces and all stages of the investment process, with economizing on material resources as its material-saving function.

In the second place, it is necessary to make adjustments in the technology and system of planning indicators.

Strengthening the special-purpose nature of planning savings of material resources presupposes the formation in the system of the most important indicators of the effectiveness of public production, not calculated indicators of the economy, but directive assignments--normatives establishing concrete proportional expenditures of resources on the production of products or assignments for reducing them as compared to the level achieved, and also specific planning of these on all levels of the hierarchy of management. Here, as was emphasized in the report of M. S. Gorbachev at the June (1986) Plenum of the CPSU Central Committee: "It is necessary to make sure that the fulfillment of assignments concerning economy of resources and the level of their utilization becomes one of the main criteria for evaluating the work of each enterprise and collective [footnote 3].

At the national economic level the USSR Gosplan could establish the indicators for the expenditure of material resources, calculated for value volumes of products and work in keeping with the products list of the interbranch balance for complexes: machine building, construction, agroindustrial, fuel and energy, transportation, or for branches of the national economy.

The task amounts to utilizing in calculations of the balance of the national economy the normative base that is formed in terms of norm-setting factors, as is done in the calculations of norms and assignments for reducing the expenditure of material resources in the basic production, the norms for expenditure per 1 million rubles' worth of construction and installation work and the assignments for economizing on rolled metal, cement and timber materials in the construction complex.

There should be a unified determination of the responsibility for the normative base (coefficients of direct expenditures), objects of planning in interbranch balance models, plans for production (construction), and balances and plans for distribution of material and technical resources, and there should be compatibility of the lists of branches, resources and products. In this case the ministries and departments are responsible for achieving the proportions and effectiveness of public production envisioned by the plan, including the utilization of material resources. This kind of organization of the work exists today in the national economy of the GDR, whose experience confirms the good results of such an approach. In solving methodological and organizational problems related to its implementation, one can use as reference the NIEI and the NIIPiN under the USSR Gosplan, which in conjunction with the main computer center and subdivisions of the USSR Gosplan have accumulated a good deal of experience in solving problems of the ASPR of the USSR Gosplan. At the same time it would not be expedient to make a single one of the subdivisions of the USSR Gosplan responsible for functions of planning the effectiveness of the utilization of material resources.

Only by thus strengthening the centralized basis in planning will it be possible, in our opinion, to increase the independence of the ministries and enterprises in searching out ways of intensifying production.

The system of long-range economic normatives and decisions of directive agencies concerning expansion of the rights of enterprises stimulate this work. The main difficulty lies in overcoming the psychological barrier. For services for material and technical supply should shift the focus in their work from using all efforts and means to substantiate the need to obtain the largest possible amount of funds for material resources to joint activity with planning-economic and engineering-technical services for preparing and implementing plans for production and construction with minimum expenditures within the framework of the requirements established by the state.

This question also arises: How can one promptly and reliably evaluate in the preplanning stage the possibilities of increasing the effectiveness of the utilization of material resources as a result of the introduction of the achievements of scientific and technical progress during the planned period?

The traditional path is to form drafts of plans of organizational and technical measures for raising the technical level of production, planning and construction, singling out in them systems of measures that provide for savings, for example, on materials. The evaluation of the results of these measures should be coordinated with individual (object) and group (average) expenditure norms. This system operates mainly in production and capital construction, and it is completely acceptable for each of the participants in the investment process. It is sufficiently flexible and convenient. But in the stage of preparation of proposals for the draft of the basic directions for the country's economic and social development, in the majority of cases the amounts of savings on material resources proposed by the developers and, correspondingly, by the ministries and departments were considerably less than the actually possible ones. And this is unwaveringly confirmed by the subsequent practice of work, although it is seriously complicated.

Thus, for example, the level of savings on rolled metal in 1990 in capital construction as a whole, according to proposals of ministries and departments for the draft of the plan for 1986-1990, amounted to no more than 5-7 percent, and in a number of cases it did not exceed 1-2 percent, which is several times lower than the level (14-16 percent) established by the Basic Directions for the Economic and Social Development of the USSR During 1986-1990 and the Period Up to the Year 2000.

Another path was suggested by A. M. Kovalevskiy, who thinks it expedient to construct matrices of dependencies of individual norms on possible technological, design, and organizational-economic conditions and resource limitations of the planned period. And to consider group norms in terms of these. Here the criterion of the progressiveness of the norms and normatives is the reduction of the expenditure or the savings on a resource as compared to the report period, other enterprises and organizations, and the achievements of foreign analogues, and the degree to which these indicators approach the optimal level.

Such a method can indeed produce a significant effect, but its introduction involves the need to organize a special ramified or powerful system of information, which will be difficult to do in practice in the next few years.

In calculations of indicators of economy on resources we encounter indeterminacy, insufficiently complete and reliable initial information concerning the directions, measures and amounts of the savings. Moreover, the quality of the initial information is frequently determined by the skills of the specialists and the possibility of subjective distortion of indicators or reduction of the reserves for economizing.

Under these conditions one should more extensively utilize methods, technology, software and programming for calculations of aggregate indicators of economizing on materials and analyzing the quality of the proposals of the workers which have been included in the subsystem of the ASPR "Norms and Normatives" with respect to tasks of the construction complex. This approach is based on a unified classification of measures and directions of scientific and technical progress. It envisions a preliminary analysis of information coming in from the developers and special procedures for processing data from various workers in order to single out homogeneous sets, to apply formal criteria for eliminating sharply anomalous values and determining specific indicators that pertain to the activity of narrowly specialized enterprises, construction and installation organizations, ministries and departments. As a result, it becomes possible to essentially adjust the initial data and augment them with measures revealed during the process of the automated analysis whose implementation will provide for the achievement of the average amounts of savings for the homogeneous set of data that have been singled out. The method can be applied for calculating the indicators and revealing reserves for economizing on various groups of resources (materials, fuel-energy, labor) and for various areas of consumption.

Its utilization in the preparation of the plan for the country's economic and social development during 1981-1985 made it possible to justifiably increase the assignments for economizing on rolled metal, cement, and timber materials in capital construction by 30-40 percent as compared to the proposals of the ministries. A confirmation of the justification for these assignments is the fact that they were fulfilled by the ministries during the past five-year plan had a level of 90-110 percent.

It is productive to use this method for determining the normative base of interbranch physical and value balances and revealing the reserves for economizing on resources in interbranch complexes, ministries and departments.

In order to improve the work for saving resources in the investment sphere, as part of the ASPR of the USSR Gosplan they have created a new system of norm-setting for the expenditure of materials, items and semimanufactured products and begun to actively introduce it. A system of interconnected models for automated calculations of norms for the expenditure of materials in long-range, five-year and annual planning has been developed and is being applied in the practice of planning. The models make it possible for each planning period to provide for a calculation of norms, limits and assignments for

savings and the need for materials in the national economy as a whole and in interbranch complexes, ministries, departments of the USSR and union republics.

The main bearer of information for the calculations is a list of construction projects (objects) formed during annual planning on the basis of data from the USSR Gosplan, ministries, and departments of the USSR and councils of ministers of the union republics. In terms of its content this document is coordinated with the basic indicators of the title lists of construction projects and protocol-orders for coordinating the volumes of construction output and contracted construction and installation work. In the calculations one utilizes indicators of the planned volumes of work for the various clients and contractors in the cross-section of branches and kinds of construction, expenditure norms per 1 million rubles' worth of construction and installation work for particular objects in the various kinds of production and construction and also those that are lumped together for the various branches, limitations on the levels of consumption of materials that are in short supply, taking into account assignments for economizing on them, data concerning the reproduction structure of capital investments and the territorial distribution of the objects, and also information concerning special conditions for construction (earthquake activity, settling ground, or cultivated territory, the duration of the winter, and so forth). Depending on the conditions for planning, in the calculations one uses either detailed or lumped indicators of the volumes of work and the norms.

This approach has made it possible to sharply reduce document turnover. Thus in order to calculate the normative base for the draft of the annual plan, instead of 12 forms of documents, as was the case for approximately 20 years, now only one (a list of construction projects) is submitted to the USSR Gosplan, and in the main computer center of the USSR Gosplan they are reproduced with computers and information is transferred to the fund holders concerning the construction projects that are under way, that are being carried out through their own sources, and those that are being carried out on an external general contract, in order to prepare information for the draft of the annual and five-year plan.

The principally new aspect in this approach is the combination in it of the advantages of the normative method with its inherent efficiency, numerous variants of calculations, and possibilities of accounting for structural and value factors and factors of scientific and technical progress that influence the need for resources, on the one hand, and the advantages of the method of strict limitation of resources with its direction toward the preparation of the draft of the plan, which is completely balanced in terms of resources and value and physical indicators and places greater requirements on the organization of the process of forming various sections of the draft of the plan, on the other.

Yet with incorrect organization of the work according to the new system, with duplication of its various services (planning-economic, material and technical supply, technical), and with a lack of attention to the possibilities of lumping initial information (for example, for small construction projects, projects for one kind of production and so forth) and to the utilization of

computer equipment, there can arise appreciable organizational difficulties, as has been the case in a number of ministries and departments.

Participants in the investment process have been given the task under the 12th Five-Year Plan of providing for the introduction of capacities and fixed capital and all of the gross in volumes necessary for this construction and installation work without increasing the resources of rolled metal, cement and timber resources, but only as a result of economizing on them.

Moreover, while under the preceding five-year plans the assignments for economizing through improvement of planning decisions were established for contracting ministries and departments which, when forming the corresponding plans of measures, had limited possibilities of obtaining the necessary information from the planning organizations, now there is the possibility of setting assignments for economizing on the most important materials for specific clients. And taking into account these assignments, it is possible to limit the level of expenditure of resources on the corresponding limits of construction and installation work.

By decrees of the CPSU Central Committee and the USSR Council of Ministers and decrees and normative acts of the USSR Gosplan, the USSR Gosstroy, and the USSR Stroybank, clients have been given extensive rights, their obligations have been determined, and responsibility has been established for the progressiveness of planning decisions and economical expenditure of materials when constructing and operating facilities. This pertains to all stages of the investment cycle.

But, as experience in working with the new system has shown, many clients have not fully met the requirements that make it incumbent on them to engage deeply in problems of economizing.

An important form of strengthening conditions for economizing should have been the plans (five-year and annual) for raising the technical and economic level of planning decisions in which they established the volumes of the application of new technologies, new kinds of technological equipment, aggregates, machines, progressive three-dimensional planning and design decisions for enterprises, buildings and structures, and new construction materials. The USSR Gosplan has determined that the effectiveness of the measures of the five-year plan is evaluated by an absolute and relative reduction of the demand for resources as compared to equipment and planning decisions previously used in analogous cases, and in the annual plant--by a reduction of labor-intensiveness, and the need for rolled ferrous metals, cement and timber materials. At the same time it was established that the indicators of the enterprise envisioned by the clients in the technical and economic substantiations should correspond to or be higher than the best domestic or foreign analogues, and in the construction part they should be coordinated with the contracting organizations.

Under the 12th Five-Year Plan the results of these plans are characterized by calculations and justifications for new norms for technical planning of objects in which progressive technological processes will be used and also machines and equipment with a long cycle of development, design and

manufacture. A preliminary analysis of the economy on the basic construction materials expected in 1986-1990 as a result of the application of new technologies, equipment and the corresponding norms for planning has shown that the proper amount of attention has not been devoted to this. The Ministry of the Chemical Industry, the Ministry of the Electrical Equipment Industry, the Ministry of Construction Materials and the USSR Gosagroprom as well as a number of other ministries, as of January 1986, had coordinated with USSR Gosstroy in the State Committee for Science and Technology new norms for technical planning which would not provide for accomplishing the assignments of the Basic Directions for the Economic and Social Development of the USSR. Under the 12th Five-Year Plan the level of economy on material resources in the range of 1 percent as a result of the reduction of expenditures on construction facilities, the introduction of new technologies and machines and equipment, proposed by these ministries and departments, cannot be regarded as substantiated or final.

The Basic Directions for the Economic and Social Development of the USSR set the task of strengthening the priority positions of machine building in the national economy, changing the structure of production, increasing the qualitative characteristics of machines and equipment and, on the basis of this, creating a real basis for technical reequipment of the country's production apparatus. As world and advanced domestic practice show, a changeover to the output of progressive technological equipment should provide a significant (in the future up to 50 percent and more) savings on material resources in industrial construction. But machine building ministries, associations and enterprises are continuing to go to the USSR Gosplan and USSR Gossnab agencies with requirements for additional (above the established funds) allotment of material resources for the needs of capital construction.

Thus the USSR Ministry of the Machine Tool and Tool-Building Industry, a year after the deadlines established for the preparation of the draft of the plan for capital construction for 1986, analyzed the planning estimates for the limits of construction and installation work and came to the conclusion that they had been betrayed by the executors of the project who not only did not provide for the fulfillment of assignments for economizing on materials established for the ministry as the client, but also required increased deliveries of rolled metal by more than 30 percent, cement--10 percent and timber--40 percent.

At the same time, the work of machine building ministries for economizing on metal, cement, timber materials and pipes does not meet modern requirements: the plans for machine-building enterprises still envision updated equipment which requires excessive volumes of construction work, large built-up areas, and unjustifiably high technological and crane loads on construction elements. State standards and other normative documents concerning conditions for economizing in all stages of planning work are being poorly implemented. As a result of the proposal from machine-building ministries, the draft of the five-year plan does not correspond to the assignments for economizing envisioned by the Basic Directions for the Economic and Social Development of the USSR During 1986-1990 or the Control Figures of the USSR Gosplan.

Moreover, in order to fulfill the assignments set by the 27th CPSU Congress for economizing on materials in capital construction, machine building, processing and extracting ministries must, according to our calculations, be oriented toward the need to reduce the expenditure of the basic materials on objects for production purposes to a greater degree than the average set for the various ministries. Thus for rolled metal the reference figure can be a level no less than 20 percent calculated per unit of capacity of enterprises or compared to the need according to plans for analogues of preceding years, and not 1-2 percent as would be derived from the preliminary evaluations of the results of their work. It is necessary to be oriented toward an amount of savings in industrial construction that is greater than the average level (14-16 percent) because the possibilities of reducing the proportional expenditures of rolled metal and other materials in housing construction are relatively limited because of the increased comfort of residential buildings that are constructed according to the new plans. Improved arrangements of apartments and more and higher stories, and also because of the complication of conditions for construction in cities that are brought about by the building up of inconvenient zones.

The situation can and should be rectified when these ministries draw up plans for the development of science and technology and measures for economizing on materials in capital construction on the basis of assignments of the five-year plan for 1986-1990 and the decree of the CPSU Central Committee and the USSR Council of Ministers, "On Radically Improving the Utilization of Raw Material, Fuel-Energy and Other Material Resources in 1986-1990 and the Period Up to the Year 2000." Reserves for economizing should be utilized by the clients to a maximum degree, and all the necessary conditions for this exists.

A decisive stage in the activity of clients, planners and contractors, which determines the amounts of expenditures on the creation of the future enterprise, building or structure, is the development of planning estimate documentation. The coordination of the efforts of the participants in the investment process for economizing on resources is still inadequate. Even though their roles are clearly defined. Thus the instructions concerning the composition and policy for the development, coordination and approval of planning estimates for the construction of enterprises, buildings and structures (SNIIP 1.02.01-85) of the USSR Gosstroy describes the development by the client with the participation of the general planner of assignments for planning which establish the requirements for the introduction of the achievements of science and technology, and indicators for the effectiveness of capital investments, reduction of material-intensiveness, and so forth.

The general planner is obligated to develop and submit to the client per coordination with the contractor all the basic points for planning in which he should provide for progressiveness of planning decisions, and economy of labor and material resources and capital investments.

In the future working plans should include solutions for rational and efficient utilization of these resources with an indication of the indicators for their expenditure on the production of a unit of output, created capacities, and 1 million rubles' worth of construction and installation work and their comparison with the indicators of the best domestic enterprises,

buildings, structures, and with those previously established by the client in the assignment for the plan. Here the client must obtain conclusions from the general contracting construction and installation organization concerning design decisions and the summary estimated calculation, and he must coordinate the section of the working plan entitled "Organization of Construction," which contains data necessary for preparing production and for material and technical support for construction.

At the present time the client of the plan, the director and head engineer of the planning organization, the head engineer and the head architect of the plan throughout the entire period of planning and construction are responsible for the technical and economic indicators of objects under construction and, along with the general contractors and the supplier of equipment, for the construction according to the plan. And the construction of objects according to outdated plans, like the application of technological processes and equipment that do not correspond to the latest achievements of science and technology, is prohibited.

Bank institutions participate fully in the process of economizing and are obligated to verify that the levels of the technical and economic indicators of the plan correspond to the requirements of the assignment for planning and the content of this assignment in terms of the indicators of effectiveness of capital investments, material-intensiveness and labor-intensiveness of construction and future production, and also savings on raw materials, processed materials and energy resources.

In spite of the existence of numerous normative acts regulating the interrelations of participants in the investment process for economical utilization of resources, in practice the work of the ministries, production associations and client enterprises with the contracting planning organizations for joint solutions to problems of balance of the plans for capital investments and construction and installation work with the envisioned material and technical resources is still poorly organized. The substantiation of the needs for material resources submitted by the contractors to the planning organizations is not verified from the standpoint of economizing on them in construction sites under their jurisdiction and, moreover, certain ministries, for example, the USSR Ministry of the Automotive Industry, do not consider this to be their function.

The limitation by the USSR Gosplan of material resources for clients as a whole envisions an analysis by the latter of the real needs for these at concrete construction projects. But this work is being done unenthusiastically and, as a result, proposals for clarifying the declared need and redistributing materials among contractors of a single client are not being submitted to the USSR Gosplan, and the revision of planning estimates for carryover construction projects is not producing any actual economy on metal, cement or timber materials, as a rule.

Thus Glavmospromostroy under the Moscow Gorispolkom estimated the need for resources according to the technical documentation it received for 1986 for rolled ferrous metals at more than could be received in keeping with the limits established by the clients by approximately 10,000 tons, timber

materials, 20,000 cubic meters, and cement--35,000 tons. But the Ministry of the Electrical Equipment Industry, Ministry of Agricultural Machine Building, the USSR Gosagroprom and other ministries did not conduct joint work with the Main Administration for clarifying the need for resources, the structure of the work or the planning decisions for reducing its material-intensiveness.

The investment activity is regulated by a number of separate instructions, policies and decrees. It would be expedient (for example, for the USSR Gosstroy) to analyze the content of all the existing documents and prepare a unified normative document regarding this issue, making it maximally compressed and concrete. Individual points in this document should be refined only if it is absolutely necessary.

When introducing a new policy for norm setting, calculation of savings and determination of the need for material resources for capital construction there arise problems related both to the lack of experience in working under the new conditions in the ministries and the need to further concretize the method being utilized and coordinated for the various levels of management with the system of preparation of production and material and technical supply for construction organizations and specific construction sites.

It is instructive that the policy for the ministries' formation of plans for organizational-technical measures has managed to remain practically without changes since 1978 when the USSR Gosplan approved the Standard Methods for Planning Savings on Basic Materials in Construction. These methods envision improvement of planning decisions as an independent area for economizing on resources. Therefore it turned out to be possible without changing it as a whole, to revise individual points of the document, taking into account the increased role of the clients in the work for economizing and informing the ministries and departments of these as indicators and forms for the development of the draft of the state plan for the economic and social development of the USSR during 1986-1990.

The essence of the refinements amounts to the fact that the ministries (departments) who are clients formulate their proposals and plans of measures for economizing on materials in the plans for objects of construction translated into the full annual volume (limit) of construction and installation work (as part of the limit of capital investments) and for economizing in construction organizations under their jurisdiction--translated into the volumes of work plan for fulfillment by the internal method. Here the implementation of the assignments for economizing on materials by planning organizations in the plans and by construction and installation organizations, and production for the same construction projects are performed with a time lag.

It is necessary to solve the problem of organizing statistical reports on the fulfillment of assignments for economizing on materials by the clients and planning organizations. It is necessary for planning organizations to report not simply on savings envisioned in the plan, but on those reflected in documentation that is submitted by the clients to the builders. At the same time it is necessary to organize work for economizing on resources in plans

created during the current year and to implement resource-saving measures in planning estimates for objects to be constructed in subsequent years.

Finally, there arises the question of how to coordinate the limits on material resources at the upper levels of planning with the provision of construction sites according to plans and estimates, including through USSR Gosstb agencies. There is the widespread opinion that modern means of computer equipment can provide for direct calculation of the real need for material resources from plans and estimates for each planned year and eliminate the need for accounting for the savings. The peculiarities of capital construction, the dynamic nature of the investment process and its dependence on a multitude of objective and subjective factors require various methods of planning: at the national economic level--according to norms per 1 million rubles with limitation on the expenditure of basic materials, and at the level of construction and installation organizations and construction sites--according to plans and estimates. The juncture of the calculations can be provided in a middle level of management--republic or main territorial construction and installation organizations and client organizations and enterprises. Here there is the possibility of using norms per 1 million rubles of output to centrally calculate the need for resources for territorial agencies of the USSR Gosstb.

Further improvement of control over the increased effectiveness of the utilization of resources in the investment process is associated with a changeover to the formation and utilization of norms and normatives of expenditures of various resources as a system of interconnected indicators. Scientific and methodological developments for such an organization of things have been created through the efforts of divisions of the USSR Gosplan, the main computer center of the USSR Gosplan, and the NIIPiN under the USSR Gosplan: a unified list is being introduced of branches and subbranches of the national economy, kinds of production, production capacity and kinds of products, basic provisions have been prepared for forming a complex of norms for planning the investment process on a unified information basis, and methods in the practice of calculating and applying normatives of capital investments, norms and normatives of the expenditure of material and technical resources, expenditures of time, labor and wages are being improved.

The completion of this work in the next few years and the restructuring as a system of planning investment activity on a normative basis will make it possible to successfully carry out the tasks set by the 27th CPSU Congress in the area of radically increasing the effectiveness of capital construction for the 12th Five-Year Plan.

FOOTNOTES

1. See: "Materials of the 27th Congress of the Communist Party of the Soviet Union," Moscow, Politizdat, 1986, p 240.
2. "Program of the Communist Party of the Soviet Union," Moscow, Politizdat, 1986, p 27.
3. "Materials of the Plenum of the CPSU Central Committee of 16 June 1986, Moscow, Politizdat, 1986, p 29.

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REGIONAL DEVELOPMENT

SHORTCOMINGS IN KIRGHIZ APK RESTRUCTURING PROBED

Frunze SOVETSKAYA KIRGIZIYA in Russian 17 Sep 86 p 2

[Article by A. Kanimetov, first deputy chairman of Kirghiz SSR Gosagroprom and minister: "The State's Pocket Is Not a Feed Trough"; first paragraph is SOVETSKAYA KIRGIZIYA introduction]

[Text] The first deputy chairman of the Kirghiz SSR Gosagroprom tells of ways to improve the mechanism of management, cost accounting and self-support and of the creative search for reserves, independence and enterprise.

The republic's agro-industrial complex [APK] concluded the first half of the current year with rather good indicators. All oblasts and rayons fulfilled the 6-months' plan for purchases of livestock and poultry, milk and eggs. In comparison with the analogous period of last year, there was an increase in the production of livestock output and young stock. Certain changes took place in the organization of labor based on the utilization of the advantages of the new mechanism of management. But we are still not satisfied with all of these indicators, inasmuch as the work of all subdivisions and services is now evaluated according to the final result--not just by the quantity but by the quality of output sent to the tables of the working people and by the level of the provision of the processing industry with raw materials. After all, the specific purpose of the APK consists precisely in the maximum satisfaction of the needs of the public for food products and in this question there are still many unresolved problems in the republic.

Many difficulties arise on the way to the goal and the reorganization is not proceeding smoothly everywhere and in every aspect. There are many shortcomings in the economic mechanism of operations, in particular in its main elements planning, management, cost accounting and contracts. Old and obsolete procedures and methods of managing production are still holding on tenaciously. They are changing only slowly and with reluctance. The lack of initiative and the blind performance of circulars and instructions is the basic style of the work of some managers of RAPO's [rayon agro-industrial associations], kolkhozes and sovkhozes. But where is enterprise, the creative search for reserves, and independence in the resolution of vital questions?

At the June (1986) CPSU Central Committee Plenum, M.S. Gorbachev stressed that our successes in the 12th Five-Year Plan will depend upon how we continue to carry on the work to improve management and the entire economic mechanism.

One of the most important parts of this work is the transition to self-support and self-financing, which presupposes the complete covering of expenditures through own income and the financing of capital investments through internal sources of accumulation, that is, undistributed profits and depreciation allowances. But there can be profit only with highly efficient work based on cost accounting and contracts.

The transition to self-support and self-financing requires intense work. If one analyzes the credit relations of kolkhozes and sovkhozes with Gosbank, than one cannot fail to note that our financial situation is far from favorable. Despite the financial and credit aid provided to enterprises, many of their managers are not taking specific energetic measures to strengthen the economy, are working in the old way, and have not done away with attitudes of dependence. Expanded reproduction there is mainly carried out through credits and they are not being paid back in the established periods.

It is enough to say that on 1 July of this year the total indebtedness of kolkhozes and sovkhozes to Gosbank for long-term loans reached 418.9 million rubles and that of short-term loans reached 918.6 million rubles. The amount of overdue loans is growing at an alarming rate, having reached 57.3 million rubles. The farms of Osh Oblast are in first place here, where it is 61.1 percent. The overdue debts of Issyk-Kul Oblast amount to 19.3 and those of Talas Oblast comprise 13.9 percent of the entire overdue indebtedness of APK kolkhozes and sovkhozes.

All this is happening because the workers of oblast agro-industrial committees and RAPO's are not analyzing the financial situation, are not taking specific measures to reduce overdue indebtedness, and are grossly violating financial discipline.

The result is that the credits received are not effective. Thus, for all republic kolkhozes during the first 5 months of this year, they increased by 44.1 million rubles, or by 34.5 percent, but the gross production of output increased by only 4.1 percent and even declined on some farms. Thus, at Kolkhoz imeni Lenin in Dzhungalskiy Rayon, bank credits increased by a factor of 2.6 but gross output declined by 25.8 percent relative to 1984. At Kolkhoz imeni Lenin in Toguz-Torousskiy Rayon, credit indebtedness exceeded received income by a factor of 6.6. This rayon can serve as a "model" for how not to carry on operations. The labor productivity gives evidence of this: whereas in 1981 gross output here was 2,712 rubles per worker, it was only 2,375 rubles in 1985.

But what about the farm managers? Never mind them, they became so used to being a burden to the state that they are not even making an effort to find some reserves to improve the situation somewhat. It is therefore not surprising that overdue bank loans increased by a factor of more than seven during the years of the 11th Five-Year Plan, reaching 11.4 million rubles. Indebtedness and the shortage of own working capital increased. In producing

5 million rubles in output, five rayon farms managed to incur 24 million rubles in debts to the state. Instead of a planned profit of 1.56 million rubles, the rayon kolkhozes ended 1985 with losses of 396,000 rubles. But the rayon management has 30 RAPO workers and 188 engineering and technical workers and employees on the farms.

The average indebtedness of the republic's kolkhozes that use credits amounts to 676,300 rubles. The situation is similar at the sovkhoses. What kind of preparation for the transition to self-support and self-financing can this be?

But the state has given us tremendous benefits and incentives. The foundation of foundations of all local activity is the decree of the CPSU Central Committee and USSR Council of Ministers issued 20 March 1986 "On the Further Improvement of the Economic Mechanism of Management in the Country's Agro-Industrial Complex," in accordance with which the 50-percent markup on purchasing prices to low-profit and unprofitable farms has been extended through 1990. This amounts to 40 million rubles. The overdue indebtedness on Gosbank loans amounting to 151 million rubles was prolonged, with liquidation within 10 years. Every year the kolkhozes and sovkhoses were given credit for the purchase of livestock, mainly pedigreed, amounting to 49 million rubles. They were allocated 20 million rubles in 1986.

This is all good but how are we utilizing this state help that is provided for the purpose of advancing the economy and improving the financial state of APK enterprises and sectors? Managers of RAPO's, kolkhozes and sovkhoses are using the allocated credits for unplanned construction, the acquisition of unneeded equipment, and the covering of mismanagement. They are pursuing the persisting defective practice of squandering resources. In the first half year alone, 6 million rubles were spent for unplanned construction. Precisely for this reason, and also because of the nonfulfillment of the plans for the contribution of own funds for the financing of capital investments, they are allowing untimely payment for installations that are finished and that have been put into operation and there is no timely settlement of accounts with contract construction organizations. The indebtedness of past years for construction and the acquisition of stocks reached 55.6 million rubles by this year.

Kolkhozes and sovkhoses are incurring large losses in their purchases of pedigreed livestock but they are not attending to it and it is losing its qualities. Thus, in 1985, the farms of Osh Oblast acquired 394 purebred horses, 5,379 head of cattle, 1,137 pigs and 147,503 purebred yearling ewes and stud rams. And that ran into money. Each yearling ewe, for example, costs 100 rubles and a stud ram costs 250 rubles. And so it is every year. During the five-year plan as a whole, the production of wool and meat in the oblast increased insignificantly and the yield of young animals declined from 93 to 89 head.

All of these shortcomings are hindering normal work and inhibiting the development of production. But it would seem simpler not to be an endless drain on the state and not to be dependent upon it. If there are no funds, do not buy, do not spend, observe a policy of thrift. But heretofore a harmful practice has prevailed at most farms. At every opportunity, they cite a lack

of premises, equipment, water for irrigation, machinery, etc. And for some reason they think that they can take all of this and build on credit. There is continual overspending, expenditures are not commensurate with income, and locally they do what they want with no economic analysis or justification. Such managers do not trouble themselves with how to get out of a difficult financial situation or with how to save in large and small ways. They completely forget that rubles mount up to hundreds and thousands.

We need more than 10 million rubles in additional funds immediately in connection with the reorganization of processing enterprises. There is hardly anyone now who is going to allocate funds of this magnitude and this means that internal resources must be found to cover these expenditures. This primarily involves the increase in the production of profitable and high-quality output in demand, the introduction of resource-saving technologies, the full utilization of secondary raw materials, the transition to cost accounting and the integral-process contract, and the extensive development of direct ties.

Multiple-function brigades under cost accounting must undergo special development. For it is much simpler for the one producing the output (fruit, vegetables, meat, milk, etc.) to be the one to process it.

Permanent attention must be paid to the development of direct ties between kolkhozes, sovkhoses and processing enterprises, ties that make it possible to put an end to duplication and redundancy in transport operations and to eliminate production losses in repeated transshipment. This is the most expedient form of uniting the efforts of APK partners.

In this connection, we are still not pleased with the first year of the new five-year plan. A large amount of vegetables and fruit has been grown but despite the possibilities given to us by the well-known decree we have not learned to trade profitably and we cannot get high-quality produce to the consumer. Today this is our main shortcoming and the basic omission in our work. The decree allows the kolkhozes and sovkhoses to sell up to 30 percent of the planned volume of purchases of potatoes, vegetables, cucurbits, fruits and berries, and table wine according to agreement with their subsequent offset in plan fulfillment. But we are moving forward in this direction very slowly. And calculations show that the farms of Gosagroprom can obtain an additional 78 million rubles from the sale of this produce in the market and 31 million rubles in its sale through the system of cooperatives. That is a large reserve and it must be used thoroughly.

We still do not have enough vegetable and fruit storehouses, which would make it possible to deliver fruit and vegetable produce evenly throughout the year, and RAPO managers need to take effective measures for their construction.

The transition to self-support and self-financing precludes the violation of the relationships between the rates of increase in labor productivity and its remuneration. But we see this frequently. For the republic's kolkhozes as a whole in 1985, the average annual wage remained the same but labor productivity declined by 3.3 percent.

The closest attention must be paid to the efficiency of the management of production and to the observance of technological discipline. During the last five-year plan, 176 farms were listed as unprofitable. Today we have 43 chronically unprofitable sovkhoses and 1 kolkhoz. Of these, 18 are in Osh Oblast, 14 in Chuyskaya Valley, and 4 each in Issyk-Kul'skaya, Naryn and Talas oblasts.

As we see, despite the increase in prices and additional payments to low-profit and unprofitable farms for exceeding the average level, the economy of these farms did not improve during these years. Large capital investments and an increase in the capital-production ratio and the power-worker ratio did not bring about an increase in the amount of gross output but even reduced it. The main reason is the decline in labor productivity.

There have been especially many shortcomings in the introduction of cost accounting and the contract. But through this we have had excellent experience in improving economically unprofitable farms. Take, for example, Put k Kommunizmu Kolkhoz in Sokulukskiy Rayon. According to preliminary results, the indebtedness here of 8 million rubles will decline by 2 to 2.5 million rubles this year and it will be completely eliminated in the next 2 years.

The farm's experience is worthy of broad dissemination. But many managers of farms and RAPO's have not yet understood that success in the matter can come only through advanced methods of organizing and remunerating labor. The acuteness of the moment becomes understandable if one considers that at this time the republic has only 0.37 hectares of plowed land per capita, that is, half as much as in the country as a whole. We receive only 18 quintals of meat, 48 quintals of milk and 3 quintals of wool from 100 hectares of agricultural land. At the same time, through careful use of the land, such progressive enterprises as, for example, Trud Kolkhoz in Kantskiy Rayon, the Kirghiz Machine Testing Station, Kolkhoz imeni Lenin in Alamedinskiy Rayon and others obtain more than 400 quintals of meat and 1,000 quintals of milk per 100 hectares. Here is where our reserves and the advantages of cost accounting are!

What is the reason for the existing situation? And for the fact that more than 300,000 hectares, or one-fourth of the entire plowed area, have been damaged as a result of incorrect grading work and many lands have become eroded and salty? Over significant areas, there are active processes of accumulation of toxic elements in the root zone. There are now more than 170,000 hectares of such areas. And if one also includes the lack of proper crop rotation and the frequent violation of agricultural technology, then one can understand the low yield, weak fodder base, and shortage of reserve feed stocks.

The chain of problems goes on to include the low productivity of animal husbandry, the large percentage of livestock lost to disease, and excess expenditures and closes with the high production cost of output and the poor yield of capital investments. And the following example indicates that it is low: the capital-labor ratio in the agriculture of Kantskiy Rayon, for example, amounts to 19,000 rubles. With that kind of a capital-labor ratio,

each worker should produce output valued at 11,000 to 12,000 rubles but actually he produces half that much. And this is in an advanced rayon of the republic.

Only a drastic change in the style of the management and operating methods can favorably affect the level of the economy. The farms now have enough rights and freedom and considerable latitude has been established for creative initiative and enterprise. It is necessary only to act, overcome the inertia of inactivity, change the way of thinking, and learn to find reserves and ways to reduce expenditures. Only in this event is it possible to bring about the improvement in the economy of the farms foreseen by the 27th CPSU Congress.

9746

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LIVESTOCK AND FEED PROCUREMENT

TAJIK CONFERENCES REVIEW PROGRESS, PROBLEMS

Livestock Goals

Dushanbe KOMMUNIST TADZHIKISTANA in Russian 12 Sep 86 pp 1,3

[TadzhikTA Report: "Toward New Goals"]

[Excerpts] The results of livestock wintering during the 1985/86 period and the tasks of the workers of the agro-industrial complex concerning a successful execution of livestock wintering and an increase in the production and purchases of livestock products during the 1986/87 winter period were discussed at the republic conference held in Dushanbe on 10 September. First secretaries of oblast, city, and rayon party committees, chairmen of oblast, city, and rayon executive committees and oblast agro-industrial committees, managers and specialists of rayon agro-industrial associations, kolkhozes, sovkhozes, and interfarm enterprises, managers and specialists of ministries and departments belonging to the State Agroindustrial Committee, scientists, executives of the machinery of the Central Committee of the Communist Party of Tajikistan, the Presidium of the Tajik SSR Supreme Soviet, the republic's Council of Ministers, the Tajik Trade-Union Council, and the Central Committee of the Komsomol of Tajikistan, and press workers took part in it.

N. K. Dolgushkin, second secretary of the Central Committee of the Komsomol, spoke before those that gathered.

"Today the Certificate of Honor of the CPSU Central Committee, the USSR Council of Ministers, the AUCCIU, and the Central Committee of the Komsomol," he said, "is handed to Tajikistan as a winner in the all-Union socialist competition for a successful execution of livestock wintering and for an increase in the production and purchases of livestock products during the 1985/86 winter period."

The advances made by the republic are the results of the purposeful work by party, Soviet, and economic bodies and trade-union and Komsomol organizations on the realization of the Food Program, further development of public animal husbandry, and systematic increase in the volumes of the production and sale of basic products to the state.

What are the general results of the work done during the period under consideration? First of all, it should be noted that, as compared with preceding wintering, state purchases of meat, milk, and eggs have increased. The qualitative indicators of procured livestock products have improved slightly. Socialist obligations adopted for the winter period have been overfulfilled in all indicators.

All of us should consider the high award as a kind of advance and a powerful mobilizing incentive obligating us to attain even more qualitative and efficient work. We are obliged to proceed from the fact that we will have to solve more complex, new problems concerning the production and sale of livestock products to the state and to improve the supply of these valuable food products for the population. A total of 107,000 tons of meat, 287,000 tons of milk, and 410 million eggs are to be sold to the state during the second year of the five-year plan.

We have everything that is necessary to attain such goals. There are experienced personnel tested in actions. Vast capital investments have been allotted for the sector and extensive work on strengthening its material and technical base is carried out. The number of livestock sections, complexes, and enterprises, which successfully apply scientific achievements and decisively adopt intensive production management methods, is growing.

However, evaluating what has been attained self-critically, in the light of new requirements, we cannot but see that we are at the very beginning of the road. Many potentials, whose utilization would make it possible to take new steps to increase the production and procurement of livestock products, have not yet been put to use. A reduction in the number of lagging farms, complexes, and livestock sections is now one of the most important directions in the work of party, Soviet, and Komsomol bodies and economic managers.

Many farms, content with average indicators, have been marking their time for years and sometimes have even surrendered the captured positions. For example, in milk production farms in Dzhirgatal'skiy, Leningrad'skiy, and Kulyab'skiy rayons seriously lag behind last year's level. Milk yields per fodder cow have decreased in Ganchinskiy Rayon.

Such facts indicate that state discipline is not yet at the proper level everywhere and proper responsibility is not placed on managers and specialists. The chief thing is that many are not yet imbued with the demands of the times and restructuring ideas. This is a serious gap in the work of local party and Soviet bodies and in agroprom activity.

Today we are very disturbed by the slow solution of problems connected with the structure of the dairy cattle herd. The proportion of cows in the republic's total herd is only 26 percent. It is still lower in Kurgan-Tyuby and Kulyab oblasts and in Pendzhikentskiy, Dzhirgatal'skiy, Komsomolabad'skiy, and other rayons. Measures to increase the breeding stock and to regulate the herd structure should be developed and strictly fulfilled on every farm. Special attention should be paid to herd reproduction and to an increase in the yield and full preservation of young stock. It is necessary to take more effective measures to reduce the barrenness of the breeding stock.

The speaker noted that our organization and management of pedigree work was not at the proper level, Gosagroprom's scientific research institutions were greatly indebted to practice, and the capacities of dairy complexes were not utilized in a sufficiently efficient manner.

Everyone knows that improvement in the fattening and grazing of animals and their transfer to industrial tracks are some of the main directions in an increase in the production and procurement of meat. We have good examples of competent management of this work, when daily weight gains in cattle total 800 to 1,000 grams and in hogs, 500 grams and more. These are good indicators, although they too are not the limit.

However, this experience has not become widespread. It is not accidental that 23 to 28 percent of the cattle delivered by farms in Kulyab Oblast and in Leninskiy and Fayzabadskiy rayons during the first half year was of leaner and average degrees of fatness. The same should be said about sheep and goats. Almost 47 percent of the delivered cattle was in the category of below-average and leaner degrees of fatness. A significant drop in the delivery weight of cattle occurred on farms in Tursunzadevskiy and Ordzhonikidzeabadskiy rayons and of sheep and goats, in Kulyab Oblast and Fayzabadskiy Rayon.

On the one hand, this indicates that a significant cattle population does not pass through fattening areas before delivery and, even if it does, does not gain the necessary weight. Order should also be introduced in this matter.

Such sectors as hog and poultry breeding can give a big and rapid increase in meat resources. However, these possibilities are not yet utilized in full measure. For example, on the Mekhnatabad Hog Breeding Sovkhoz in Ilichevskiy Rayon and on the Navobod Hog Breeding Sovkhoz in Kuybyshevskiy Rayon feed and labor expenditures per unit of output exceed any norms. Even more significant shortcomings exist in poultry breeding. Stock losses are increasing here, leading to big financial losses.

Ultimately, all this led to the nonfulfillment by the Tajik SSR Administration of the Poultry Raising Industry of the 1985 plan for the production and sale of meat and other indicators, which was reflected in the population's provision with these products. In this connection the position of the republic's agroprom and local party and Soviet bodies, who, frankly speaking, do not manifest special concern with regard to such an extraordinary situation, is incomprehensible. The republic's Gosagroprom must fundamentally restructure the work of the veterinary service, raise the responsibility of its personnel, and reduce stock losses due to morbidity to a minimum.

The maximum possible strengthening of the feed base of animal husbandry is the question of questions in it. Insufficient attention to this matter and, frankly speaking, parasitic frames of mind among some managers have led to the fact that to this day, despite the measures taken, the republic has not been able to reach last year's level in the procurement of coarse and succulent feed per standard head of livestock. After all, it was, as a matter of fact, the minimally possible reserve.

In most rayons the state and management of the feed economy seriously lag behind the needs of developing animal husbandry. It is necessary to take every measure to replenish coarse and succulent feed reserves, especially at the expense of the irrigated wedge. Other possibilities should also be utilized better. An efficient and careful feed expenditure should become the norm of management.

Problems of mechanization of labor intensive processes in animal husbandry are now very acute. It is completely abnormal when a significant part of the installed expensive equipment is idle and gets out of order owing to an incompetent operation and to the lack of proper care and prevention.

The speaker concentrated his attention on problems concerning forthcoming wintering in animal husbandry. The creation of sufficient feed reserves, especially on distant pastures, is one of the main conditions for its successful execution. Unfortunately, this work is carried out in an intolerably slow manner. At present feed reserves on winter pastures do not exceed 25 percent of the need. Even less has been delivered in a number of oblasts and rayons. Party, Soviet, and economic bodies must most carefully analyze the situation and take all the necessary measures to create the necessary reserves and to ensure the conditions for their complete safety.

Participants in the conference mapped out ways of further developing the republic's agro-industrial complex, successfully executing forthcoming livestock wintering, and increasing the production and procurement of livestock products during the 1986/87 winter period.

Feed Production Technology

Dushanbe KOMMUNIST TADZHIKISTANA in Russian 13 Sep 86 p 3

[Report on seminar by S. Mirzorakhmatov, KOMMUNIST TADZHIKISTANA correspondent: "On Intensive Technology"; first paragraph is KOMMUNIST TADZHIKISTANA introduction]

[Text] A republic scientific and practical seminar on problems concerning the introduction of intensive fodder crop raising technology was held on the Sovkhoz-Tekhnikum imeni Kuybyshev in Kommunisticheskiy Rayon. Managers and specialists of the republic's Gosagroprom, oblast and rayon agro-industrial associations, kolkhozes, and sovkhozes and leading scientists in the field of agriculture took part in the work of this seminar.

The farm has not by accident become the place for holding the seminar. The sovkhoz-tekhnikum has accumulated valuable experience in an efficient utilization of irrigated arable land. Corn and sugar beets have been cultivated by the method of companion sowing here for many years, which ensures a high yield of fodder land. Farms are provided with fodder root crops almost all the year round. In spring corn together with sugar beets is sown on one map and sugar beets in pure form, on another. Sugar beets remain after corn harvesting. They ripen in October. Livestock is fed with the fall harvest of fodder root crops until May. Sugar beets sown in early spring

ripen as early as June. From companion sowing the farm annually obtains 240 to 250 quintals of green mass, 65 to 70 quintals of corn grain, and 340 to 350 quintals of sugar beets per hectare.

The experience of feed procurement officials on the sovkhos-tekhnikum in ensuring feed preservation is interesting. For example, the method of ventilation drying of lucerne makes it possible to almost fully eliminate the losses of its nutrients, whereas during ordinary drying leaves fall off, some stems remain, and, naturally, the calorific value of fodder declines.

An extensive introduction of intensive fodder crop cultivation technology enables the farm to increase the yield of livestock sections with the smallest expenditures year after year. The dairy complex now obtains 800 quintals of milk and 150 quintals of meat per 100 hectares of arable land.

The seminar's practical part was devoted to the study of the experience of feed producers and livestock breeders on the sovkhos-tekhnikum. Speeches by scientists drew attention to the fact that in the republic intensive fodder crop cultivation methods are still introduced slowly and the experience of advanced farms in an efficient utilization of irrigated arable land has not become widespread.

As is well known, the introduction of promising, new varieties of grain and fodder grain crops is one of the ways of efficiently developing feed production and sharply increasing the reserve of high-calorie feed. For some reason, however, new varieties are being introduced too slowly, although the advantages of many of them are obvious. Let us take triticale. This hybrid has absorbed all the best qualities of wheat and rye. The weight of triticale ears exceeds the weight of wheat and rye ears 2- to 2.5-fold. Experiments convince us that even on nonirrigated land it is possible to obtain up to 40 quintals of grain per hectare.

This hybrid is resistant to lodging and diseases and its feed qualities are also evident. One kg of triticale contains 0.29 feed units.

Triticale is an "economical" crop. Usually, 100 kg of wheat per hectare are used for sowing. When sowing triticale, this norm can be reduced almost by one half. In brief, triticale is the most promising crop. By ensuring its extensive introduction on the republic's farms, it is possible to sharply increase grain production. Unfortunately, the number of farms, which have undertaken the raising of the new crop, is not big.

The efficiency of new developments depends primarily on their correct application. It often happens that, as a result of an incorrect introduction of new methods, their advantages are nullified. The republic's scientists have developed a scientifically substantiated system of increasing soil fertility and providing livestock with green feed during 8 or 9 months in conformity with the conditions of the Vakhsh Valley. However, it is not correctly applied on many farms. Owing to this, alternate crops ripen late and the optimum time for cotton sowing is missed. The inability to apply this effective system on many farms is justified by the fact that it is imperfect. Meanwhile, the experience of advanced farms, including of the sovkhos-

tekhnikum, shows that the introduction of alternate crops is one of the effective methods of developing feed production and increasing the yield of land.

The yield of many feed crops remains low precisely because of the incorrect application of many developments and violation of technology. For example, the yield of lucerne in terms of dry hay on a number of farms in Kurgan-Tyube Oblast totals 127 quintals, whereas on advanced farms it is 1.5 times higher.

The seminar presented a claim against the scientists themselves. Every new development is connected with expenditures from the laboratory to the field. Therefore, scientific recommendations should be truly valuable. Their introduction should contribute to a sharp increase in the efficiency of feed production with the smallest expenditures.

Kh. Nasredinov, secretary of the Central Committee of the Communist Party of Tajikistan, spoke at the seminar. A. Kasimov, first secretary of the Kurgan-Tyube Oblast Party Committee, and A. N. Maksumov, first deputy chairman of the Tajik SSR Council of Ministers, chairman of the republic's Gosagroprom, took part in the work of the seminar.

11439

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TILLING, CROPPING TECHNOLOGY

IMPACT OF INTENSIVE TECHNOLOGY IN KRASNODAR KRAY

Krasnodar SELSKIYE ZORI in Russian No 10, Oct 86 pp 1 - 4

/Article by I. Polozkov, 1st Secretary of Krasnodar CPSU Kray Committee: "Along the Path To Reorganization and Acceleration"/

/Excerpts/ During the previous issue of SELSKIYE ZORI, a discussion took place during a republic seminar-conference on the problem of increasing the production of grain from winter crops and corn, cultivated using intensive technologies.

We are continuing the publication of materials from the seminar-conference, held in Krasnodar.

The party and soviet organs and the Kuban agroprom are persistently improving the work concerned with providing organizational, ideological and logistical support for the all-round program for intensifying the grain economy and in all areas they are achieving strict observance of the requirements of the intensive technologies.

This year the kray's farmers obtained 41.8 quintals of grain and pulse crops per hectare from an area of 1.8 million hectares. Winter wheat furnished an average of 43 and winter barley -- 47.1 quintals per hectare.

Winter crops were grown on 1.3 million hectares using the intensive technology. This new method produced an increase in the wheat yield of 9.6 quintals and barley -- 12.4 quintals.

More than 2 million hectares are being set aside for intensive sowings next year -- or 90 percent of the grain fields. The winter crops will be grown on 1.6 million hectares using the new method.

The workers attached to the Kuban region's agroindustrial complex are multiplying the contribution they are making towards implementation of the Food Program. Each year the farmers grow approximately 8 million tons of grain, 5.5 million tons of sugar beets, more than 600,000 tons of sunflowers and up to 2 million tons of vegetable and fruit and berry products.

The problem of raising agricultural production and increasing its stability, particularly the grain economy, is one of the most urgent problems confronting the party organization. Our goal is to raise the gross yield of grain to not less than 9 million tons by the end of the five-year plan.

There is one path to be followed -- increasing the yields. It cannot be said that capital investments were not allocated for the grain fields in past years. Moreover, these investments were considerable. However, they did not produce a proportional return owing to their unsystematic character. Over the past 15 years, the production cost for a quintal of grain at kolkhozes throughout the kray increased by twofold -- by 3 rubles and 40 kopecks, while the yield was raised only by 4.5 quintals, or by 16 percent. A quintal of increase cost 28 rubles and 26 kopecks -- almost four times more expensive than the purchase price.

Thus correct action was undertaken by the party's Central Committee and the USSR Council of Ministers when they handed down the decision aimed at raising the yields and increasing the production volumes for grain based upon comprehensive and all-round intensification. The correct path to be followed for implementing the assigned tasks, as mentioned during the June (1966) Plenum of the CPSU Central Committee by Mikhail Sergeyevich Gorbachev -- the introduction of intensive technologies.

This conclusion is borne out by farming practice in the Kuban region. Roughly 463,000 hectares were made available for use with the new technology in behalf of the 1985 harvest and this year -- 1.7 million hectares. The increase in grain for both last year and this year was on the order of a ton per hectare. But we are convinced that the introduction of the new technology is by no means a simple matter. It can be stated directly that not everyone in the kray has passed this examination.

The grain problem has always been a political problem. Today, with a campaign underway aimed at implementing the Food Program proclaimed by our party, the responsibility of party organizations for agricultural operations has increased immeasurably.

If we examine this statement from the standpoint of the intensive technology, then it appears that:

...first of all, we have in mind a radical breakdown in the psychology of a grain grower. The concept which has prevailed for centuries -- preparation of seed, cultivation of soil, sowing and wait for the harvest -- is not suitable here. Grain, similar to all living things, must be cultivated, nourished and protected throughout its entire period;

...secondly, under present-day conditions, all branches of the national economy and all spheres of ideological and professional labor are drawn into the process of introducing the intensive technology from a material, organizational and educational standpoint. This is not suitable for some agroprom organs;

...and thirdly, with the intensive technology a considerable increase will take place in the amount of risk from an economic-administrative, psychological and

ecological standpoint. Strong and costly modern preparations are being introduced into production operations. The expenditure mechanism is undergoing changes. It is sufficient to cite just one example. During the past five-year plan, the grain yield in the Kuban amounted to 32.7 quintals and this ensured a profitability of 80 percent (for a per hectare expenditure of 182.2 rubles). In order to guarantee such a profitability from use of the intensive technology, an average of 45.8 quintals of grain must be obtained on the whole from each hectare. Under such conditions, technological discipline and the organizational ability of all those who participate either directly or indirectly in this process must be raised to an unprecedented height.

As you can see, the field of activity for party committees is tremendous.

Based upon the requirements set forth in decrees of the CPSU Central Committee and the USSR Council of Ministers and also the RSFSR Council of Ministers, with regard to the introduction of intensive technologies, the kray party committee and the kray executive committee developed a system of measures for providing organizational, ideological and logistical support for the intensification program for grain production. Everything was included: the need for a concentration of logistical resources and for the strict carrying out of a complex of operations was stressed, who was to be taught and where and when, what was to be published and for whom, who was to produce, organize and control and so forth.

A maximum amount of attention was given to personnel training. Training was provided for party, soviet, komsomol and trade union workers and for farm leaders, middle echelon specialists and machine operators. They were trained in two stages: in July and August, the peculiarities of the preparatory and autumn-winter work cycles and in January -- the early spring and summer work cycles. Initially the quality of the knowledge was checked by certification committees and subsequently -- by life itself. But the first year of the mass conversion over to the new technologies revealed that such training and the traditional methods for carrying out work with people were not enough. A majority of the workers still possess only a limited amount of knowledge in this area. More thorough preparation of the personnel and the logistical base is required for all elements of the agroindustrial complex.

We encountered a situation wherein certain party organizations, soviet and agricultural organs, farm leaders and specialists and other enterprises and organizations of the agro-industrial complex -- Selkhoztekhnika, Selkhozkhimiya and agricultural aviation -- owing to a lack of knowledge and the absence of proper responsibility, were not applying themselves in a conscientious manner to the introduction of intensive technologies. Because of violations of the requirements, winter crop undersowings and resowings had to be carried out on a portion of the areas on a number of farms. When selecting the varieties to be used, the peculiarities of the predecessor crop arrangements were not always taken into account and an optimum ratio between the elements of mineral nutrition was not maintained in all areas.

In some rayons, owing to carelessness on the part of administrative personnel, the carrying out of the operations called for by the technology for treating the plants during each phase of their development was not organized in a timely

manner. The technological track was not used in a number of areas and incidents of low quality aviation-chemical work were tolerated. A majority of the wide-swath sprayers were produced with violations of the technical requirements. Thorough records on the carrying out of technological operations on each field were not maintained at some farms. Obviously, this only added to the "bouquet" of failures and shortcomings.

Weak plant protection turned out to be the most vulnerable element. In recent years, owing to poor cleaning of the fields in the autumn, warm winters and other factors, extremely high numbers of pests and diseases have been observed in many rayons throughout the kray. Many leaders and specialists have not given any thought whatsoever to the fact that the plants must also be treated and that plant protection falls within the profession of a practical farmer.

Thus we were forced into developing a program for the construction of treatment sites, solution units and for the production and re-equipping of sprayers. Each kolkhoz and sovkhos had to be staffed immediately with plant protection agronomists and it was categorically forbidden to assign tasks to these individuals which were not in keeping with their official responsibilities. Transport vehicles had to be provided and other conditions required for effective work had to be made available. The recommendation was made to introduce this category of workers into the nomenclature for bureaus of municipal and rayon party committees and to establish raised payments for high quality work.

It cannot be said that the problem has already been solved. But the ice-jam is breaking up. Many leaders, and even rayon committee secretaries, are beginning to take another look at plant protection and the protection of personnel working in this service.

At the present time, 509 kolkhozes and sovkhos have plant protection agronomists. They are being provided with assistance in the form of placards, brochures and leaflets. Plans for calendar-phenological observations were developed and implemented on each farm under the direction of the kray plant protection station.

At the same time, a solution was found for the technical side of the problem. In connection with the absence of centralized deliveries, the collectives of industrial, repair-technical enterprises and kolkhozes and sovkhos produced 1,260 wide-swath boom sprayers and they re-equipped 1,230 for a swath width of 22 meters. More than 1,000 fixed and mobile solution units and the required number of containers were prepared. Prior to the commencement of the operational season, the workload per sprayer did not exceed 250 hectares.

The increased amount of attention given to this service made it possible this year to carry out a complex of protective measures in a more effective manner, with the technological requirements and the need for protecting the environment being taken into account. The overall area for the cultivation of winter crop sowings, taking into account the repetition of operations, amounted to 4.8 million hectares, of which amount anti-pest measures were carried out on 2.3 million hectares, anti-disease measures on 1.6 million and anti-weed measures on 900,000 hectares.

The goal was the same -- to achieve absolute observance in all areas of the requirements for the intensive technologies. The forms for carrying out this work will be improved in the future. But even now we are still encountering incidents in which leaders and specialists are opting for over-simplifications. In such instances, the soil is being cultivated using arrow-shaped cultivators instead of flat-cutting working organs and in other areas the sowing is being carried out among fallen fruit, the seed has not been cleaned properly and the recommendations for the chemical disinfection and proper depth placement of the seed are not being followed.

One of the most difficult aspects of the work is that of adhering to the sowing schedule established for each zone. Here not everything is dependent upon the farmers. The crop rotation plans are over-saturated with late ripening crops. This is disrupting the operational rhythm for soil preparation work. Nevertheless, the rates for preparing for sowing and for carrying out the sowing proper can and must be higher.

But one other fact is also clear: in the absence of direct material interest, it is difficult to raise discipline on the basis of strict rules alone. And although by this time the collective contract had been introduced into operations on a rather extensive scale, nonetheless numerous violations of technological discipline prevent us from considering this work to be completed today.

The intensive technology serves to convince one of the importance attached to strict observance of technological discipline by literally each element, regardless of its size. We have truly approached such a work level in agriculture which, in terms of its level of technological complexity, is akin to many leading industrial branches. What does it mean to have uniform distribution of only 500-600 grams of toxic chemicals for each stalk, for each leaf of each of 5-6 million plants on each hectare? It is agreed that this work is just as delicate as that of a jeweler. Thus all of the measures undertaken in the kray are aimed one way or another at ensuring the carrying out of each technological detail in accurate conformity with the technological parameters.

Such a feature: last year, when defining the tasks for introducing the intensive technologies into operations, the bureau of the CPSU kray committee authorized each grain grower experiencing difficulties to halt the sowing of unprepared soil, since if this problem is not terminated, it will be impossible to correct it in the future. We are now abandoning this approach.

For the purpose of furnishing practical assistance, we have assigned agroprom specialists and scientists from institutes and other scientific institutions to each rayon and farm. This measure has proven to be very useful to both the practical workers and scientists and, most importantly, to the work itself.

Many NII [scientific research institute] workers and VUZ teachers have furnished invaluable assistance to grain growers and to the leaders of party and soviet organs. We recommend that the CPSU rayon committees assign these scientific workers to the temporary nomenclature of the rayon committees and provide them with references, based upon the annual results, for presentation at their place of work.

By the beginning of August, the harvesting of cereal grain and pulse crops had been completed throughout the kray. On average, from an area of 1.8 million hectares, 41.8 quintals of grain per hectare had been obtained, including winter wheat -- 43 and winter barley -- 47.1 quintals per hectare. Winter crops cultivated on 1.3 million hectares using the intensive technology furnished 45.6 quintals per hectare, including wheat -- 44.8 and barley -- 50.5 quintals per hectare. Compared to the conventional technology, the per-hectare increase for the entire group of winter crops was 9.8 quintals, including wheat -- 9.6 and barley 12.4

More than 50 quintals of winter wheat per hectare were obtained in 11 and winter barley -- in 18 rayons. In Anapskiy, Leningradskiy, Timashevskiy and Ust-Labinskiy rayons and on farms in the city of Krasnodar, the average yield reached 55-60 quintals. Some collectives obtained an average of 70 quintals of grain or more.

But at the same time, we have many kolkhozes and sovkhoses where the yields do not run higher than 30-35 quintals per hectare. It is now quite clear to everyone that the reasons for this lie not with the weather but rather with violations of the technology. This includes poor soil preparation, late sowing, irregular fertilizer applications, especially nitrogen fertilizers, poor utilization of protective agents and large losses during harvest operations. Thus the results obtained require creative and very critical comprehension and very serious evaluations and conclusions.

It is appropriate today to recall the words of the eminent Russian scientist K.A. Timiryazev, who stated that no other field of endeavor requires the weighing of such diverse conditions for success, the handling of such diverse types of information or involves the appearance of unilateral points of view that can lead to large failures as does farming.

It was precisely one month ago, immediately following the harvest, that a council of agricultural scientists gathered together at the Krasnodar Scientific Research Institute of Agriculture imeni P.P. Lukyanenko for the purpose of critically evaluating the operational results achieved through use of the intensive technology. During the course of a scientific discussion, coordinated actions and recommendations were developed for the entire period devoted to gathering in the grain of the second year of the five-year plan. What were some special features of this discussion?

Once again, the question of personnel training was raised. This year's results revealed that the greatest shortfall in the crop occurred among those who believed that they knew everything. From 31 July to 5 August, we conducted training for the leaders and specialists of brigades and detachments and for machine operators. Scientists and specialists attached to the kray agro-industrial committee participated in this training. In accordance with the training results, more than 30,000 individuals were certified.

From 7 to 16 August, one-day seminars were conducted at the Krasnodar NIISKH /Scientific Research Institute of Agriculture/ and the Kuban Agricultural Institute for leaders and specialists of the kray's agroprom, for scientific workers assigned to rayons and farms, for the leaders of RAPO's /rayon agro-

industrial associations, kolkhozes and sovkhoses and for the chief and branch specialists of farms. In all, training was provided for 3,200 individuals.

Taking into account available experience, recommendations, brochures and placards on use of the intensive technology for cultivating winter grain crops were prepared and published on a mass basis. Agro-chemical passports were issued to all of the farms for each field.

Very serious attention was given to soil preparation work. One complication lies in the fact that this work is considered to be the most labor-intensive task during a given stage in the technology. In the absence of moisture and under high temperature conditions, it is difficult to carry out field preparation work.

The experience of leading workers, particularly the brigades of twice-decorated Hero of Socialist Labor M.I. Klepikov, once again confirms that organic material serves as the source for the fertile strength of a field. Thus we established the task of radically changing the attitude towards the production, storage and use of organic fertilizer. The program for the intensification of the kray's national economy, adopted during the plenum of the CPSU kray committee in July of this year, called for the construction of simple and yet reliable manure-pits and hard surface approach roads leading to them. In addition, the production and accumulation of farmyard manure was to be included among the mandatory indicators for each farm, bulldozers were no longer to be used for distributing manure over a field, the seeding of fields with weeds as a result of incompetent fertilizer (organic) applications was no longer to be tolerated, the production of organic material must be carried out by a production subunit and the GOST's /state standards/ and price must be established for farmyard manure.

Although strange, it is nevertheless a fact that of 57 agricultural NII's /scientific research institutes/, experimental stations and laboratories in the kray, there is not one problem group nor one scientist-enthusiast that is engaged in studying farmyard manure. We request the president of VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/, A.A. Nikonov, to issue appropriate commissions in this regard, since this work is only being carried out on a social basis.

The experience accumulated in the mastering of intensive technologies has once again drawn attention to the problem of mineral fertilizer utilization. First of all, a requirement exists for fresh information on the agro-chemical characteristics of each field, so as to have accurate knowledge of how much fertilizer should be applied in behalf of the programmed yield for each crop and when and how it is to be applied. And this information is not always available. There is a shortage of equipment and at times -- of operational efficiency.

At the present time, the dosages for applying fertilizer have been defined more precisely. For the northern zone, the dosage of phosphorus fertilizer has been increased and the nitrogen fertilizer decreased and in the central and southern-piedmont zones -- just the opposite. Our scientists recommend that nitrogen fertilizer be applied in the autumn at the rate of 50-60 kilograms per hectare

and the remaining portion -- almost two thirds -- in a split application, during the most important stages of plant development.

I would like to emphasize the special importance attached to applying fertilizer in behalf of the principal soil cultivation. Experience has shown that an attempt to compensate for this by means of subsequent top dressings does not produce the proper effect. In this regard, RSFSR Gosagroprom must establish strict control over fertilizer deliveries by types and schedules.

When examining the operational results realized throughout the kray in the use of intensive technologies, attention is once again directed to the need for employing a thoughtful approach in the selection of varieties which differ in terms of high yield, grain strength and resistance against unfavorable weather factors, pests and diseases. This year, in a majority of the kray's rayons, a correct approach was employed for this problem and this made it possible to expand the area of strong wheat to 85 percent of the sowings of this crop. As a result, of the overall volume of 3.4 million tons of wheat procurements, 1.5 million tons were sold as strong and 1.7 million tons as valuable wheat.

The farms will receive 50 million rubles for having sold wheat of a raised quality to the state. In other words, each ruble invested in the grain quality furnishes three rubles of profit.

However, such an approach was not manifested in all areas. On a number of farms, no attention was given to the strength of the varieties sown, but rather emphasis was placed upon obtaining higher yields. At the same time, there are obstacles which were created artificially. For example, the Prikubanskaya and Olimpiya varieties were approved as being valuable types when in reality the grain obtained from their sowings was classified as strong. However the procurement specialists are not authorized to accept the grain as being of the strong type.

In a decree of the CPSU Central Committee and the USSR Council of Ministers, large-scale measures were defined for increasing grain production during the 12th Five-Year Plan. In light of this document, a large program is planned for developing grain production in our kray.

The chief path to be followed for solving this task -- the extensive use of intensive technologies. Next year, they will be used on more than 2 million hectares -- 90 percent of the grain fields, including 1.6 million hectares of winter grain crops. The party, soviet and economic organs are undertaking measures aimed at ensuring that the entire complex of operations associated with establishing a strong foundation for the new harvest is carried out in an efficient and organized manner.

At the present time, all of the collectives of the Kuban agro-industrial complex are following the decisions handed down during the June (1986) Plenum of the CPSU Central Committee and they are persistently striving to ensure that the work of the autumn field complex is completed in an organized manner, that the technical, vegetable, fruit and other crops grown are added to the state's resources, that the required supplies of feed are created and that the farms are prepared for the winter in a timely and high quality manner.

The party committees and all of the primary party organizations are concerned with successfully fulfilling the plans for the first year of the five-year plan and ensuring accelerated development for all branches of the national economic complex.

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TILLING, CROPPING TECHNOLOGY

KUBAN GRAIN PRODUCTION OPERATIONS DISCUSSED

Moscow SELSKAYA ZHIZN in Russian 2 Nov 86 p 1

[Article by A.G. Pashkov, chief of the Department of Farming of the kray's agro-industrial committee: "Kuban Harvest"/

[Text] For the first year of the five-year plan, the workers attached to the kray's agro-industrial complex achieved a high cropping power and high gross yields of grain and they over-fulfilled their plans and obligations for selling grain to the state. Our correspondent asked the chief of the Department of Farming of the kray's agro-industrial committee, A.G. Pashkov, to discuss the inputs for success and the work being carried out at the present time on the main fields in the Kuban region.

It was little more than a year ago that the kray's farmers undertook to obtain, in behalf of the first year of the 12th Five-Year Plan, 38 quintals of grain per hectare and to raise the gross grain yield to 8.5 million tons. The decision was made to sell 4.1 million tons of grain to the state and to raise the proportion of strong and valuable wheat, in the overall volume of wheat sales, to 93 percent.

Today, on the eve of the 69th anniversary of the Great October, it is pleasant to recognize that the plans have been fulfilled. The harvest realized was the highest in the history of the kray. According to preliminary data, a yield of 41.8 quintals of grain was obtained from each hectare, or 5.2 quintals higher than the indicator planned. The "Firm" Kuban wheat crop furnished 43 quintals of grain per hectare and winter barley -- 47.1 quintals per hectare. The rice checkplots also turned out to be quite generous. On the whole, the gross yield of grain amounted to 8,628,000 tons. Roughly 4.3 million tons of grain were added to the state's granaries. More than 3.4 million tons of wheat were sold, including 3.3 million tons of strong and valuable wheat -- 95.6 percent.

The chief reserve upon which the leaders and specialists of the agro-industrial complex and all of the kray's grain growers rely is that of persistently raising the culture of farming and making extensive use of the intensive technology, which this year furnished a considerable increase in the yields compared to the conventional agricultural method -- an average of 10.3 quintals of grain per hectare. On the whole, 45.7 quintals of grain per hectare were

obtained from all of the intensive fields, or 1,339,000 additional tons of high quality grain.

The entire area upon which leading methods for cultivating winter crops were employed was assigned to cost accounting and contractual collectives. We organized objective training in each rayon and on each farm, training which was concerned with the specific tasks to the maximum possible degree. The leaders, specialists and rank and file workers undertook examinations in accordance with the training results. The requirements were very strict. Some did not pass the examinations and had to repeat the course and some even had to take it a third time. But there was no other alternative. The intensive technology is the acme of farming art. It requires high professional training on the part of all concerned.

The new agricultural method employed on 81 percent of the winter crop fields raised a need for examining many former notions and methods and for carrying out each operation in a thorough and timely manner. We increased the use of farmyard manure and improved its preparation and the methods employed for working it into the soil. Roughly 305 kilograms of nitrogen, phosphorus and potassium fertilizer in active agent were applied to each hectare. Of this amount, 211 kilograms were worked into the soil in the autumn in behalf of the principal cultivation.

In the spring and summer, the specialists necessarily took into account the nutritional requirements of the plants for each stage of their growth. Thus they succeeded in controlling the development of the winter crops and were able to take full advantage of their biological potential.

The observance of the best sowing periods provided a strong basis for raising the yields, as they began to follow more strictly the sowing norms and the seed placement depths. Naturally, first class seed for the better varieties was used in carrying out the sowing work.

For protecting sowings against weeds, pests and diseases, use was made of the integrated method -- an optimum combination of agrotechnical, chemical and biological measures. As a result, the kray's grain growers succeeded in avoiding crop losses and a reduction in their quality. A growth regulator -- the TUR preparation -- was employed on all of the intensive fields. In addition to strengthening the culm and depressing the growth of the grain crops, it also activated the movement of nutrients from the roots to the ears. In addition, this preparation enabled the plants to handle moisture more efficiently.

The machine operators had to display considerable ingenuity -- there was a shortage of reliable and highly productive items of equipment for use with the new technology. As a solution for this situation, the efficiency experts in the various areas produced a whole series of machines, especially for applying fertilizers. It was difficult to understand the sluggishness displayed by Mintraktoroselkhozmash. Indeed, it is a fact: this year, owing to imperfections in the combines alone, the grain loss per hectare amounted to approximately one ton and the kray's overall loss -- more than 1 million tons of grain.

Nor is everything proceeding smoothly in connection with the supplying of fertilizers, especially phosphorus and potassium fertilizers. During the most

critical periods, shortages at times are being noted in the availability of effective pesticides. The laboratory base of the agrochemical service is weak. A requirement also exists for improving the training for all personnel concerned with the cultivation of grain crops.

We are presently continuing our work out on the grain fields with these requirements being taken into account. This year, more than 1.6 million hectares of winter grain crops were sown throughout the kray using mainly the intensive technology. Next year we must harvest 8.7 million tons of grain and thus surpass the yield level already achieved. And everything is being done in the interest of achieving this goal. At the present time, the farmers are tending their crops. The extremely dry summer and autumn conditions have caused corrections to be introduced into the work. In some areas, the seedlings have turned out to be both sparse and weak. Various methods must be employed for strengthening them and, when necessary, an undersowing should be carried out in the interest of ensuring an optimum density for a productive stand of plants.

Many farms plan on acquiring additional combines so as to be able to lower the workload per unit to 80 hectares. Personnel training is continuing. Roughly 34,000 individuals underwent training at the Kuban Agricultural Institute and the Krasnodar Scientific Research Institute. The technological passports assigned to each field are being updated. Work is continuing in connection with the repair and re-equipping of machines. The autumn plowing was carried out during the best periods. In short, all workers attached to the agro-industrial complex for the Kuban region are devoting a maximum amount of attention to the 1987 harvest.

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TILLING, CROPPING TECHNOLOGY

BRIEFS

KUBAN GRAIN HARVEST--The grain harvest was truly great. Roughly 4.3 million tons of grain were sold to the state. If one takes into account the sowing area (2 million hectares), then the contribution was considerable: an average of more than 20 quintals per hectare -- in sales. Yes and the final yield amounted to an average of more than 40 quintals. For a period of many years, the kray had been unable to surpass the figure of "40." And suddenly it was exceeded quite easily. What is the explanation? Was it just a coincidence of circumstances or could it have been good weather? Earlier the agronomists and leaders referred precisely to the weather. I often visited Krasnodar and returned from there with mixed impressions -- they referred to it as being almost a desert of sugar. True, it was chernozem soil 7 meters in depth. Thus there were conflicting impressions. Certainly, the well known "Armavir Corridor" played a role -- from the Stavropol steppe region to the very kray center in the Kuban area. Even today, furious winds travel this corridor and the farmers must resist them. But what actually took place? Was it a reorganization? I do not believe that this word should be used in an offhand manner. But having visited the Kuban this spring and having met with experienced economic experts, it is my impression that they were dissatisfied by the results of the work assigned to them. And particularly -- by the return from the land. Or more specifically -- by the yields which they were obtaining. And certainly, it was no accident that the TASS report concerning the fine Kuban grain harvest contained the following words: "The Krasnodar workers could have obtained even more grain if they had used all available reserves. One such reserve -- overcoming the differences in yields, wherein some rayons are obtaining more than 50 quintals of winter wheat, while others -- just slightly more than 30. Thus, for next year the decision was made to cultivate all of the wheat using only the intensive method. This applies to each field and each tract. All of the kolkhoz and sovkhoz brigades have converted over to cost accounting procedures and the production of organic fertilizer is being converted over to a scientific and industrial basis." It is my opinion that such an approach is needed not only in our rich Krasnodar Kray. It is also needed in areas which are less favored. This is true in view of the fact that the potential of our grain fields is still not being realized fully. /by O. Pavlov/ /Text/ /Moscow IZVESTIYA in Russian 30 Oct 86 p 1/ 7026

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POLICY, ORGANIZATION

TSENTROSOYUZ CHAIRMAN CRITICIZES 1986 PRODUCTION RESULTS

Moscow SOVETSKAYA TORGOVLYA in Russian 1 Nov 86 p 2

[Report by M.P. Trunov, chairman of the board, Tsentrosoyuz [Central Union of Consumer Cooperatives]: "Activity and Efficacy Are Needed for Reorganization"]

[Text] An expanded session of the Tsentrosoyuz Board has taken place. It discussed the following question: "On the Results of the Work Done by the Consumer-Cooperative Organizations over the Last Nine Months and Measures to Ensure Fulfillment of the Plan for 1986." The report was delivered by M.P. Trunov, chairman of the board of Tsentrosoyuz.

This report is published below in a condensed version.

The measures which have been adopted with regard to improving administration, introducing new forms of management, the extensive utilization of economic forms of supervision, and activization of the human factor have likewise affected the results of the activities of the consumer cooperatives over the last nine months. In analyzing the results of this work, M.P. Trunov, the chairman of the board of Tsentrosoyuz, noted that the retail turnover (without counting the sales of alcoholic beverages) increased by 8 percent, including the turnover by city cooperative trade in agricultural products--by 16 percent. The total production output in cooperative industrial enterprises grew by 6.4 percent, requisition purchases of meat and meat products at agreed-upon prices--by 13 percent, vegetables--by 13.5 percent, and fruits--by 19 percent. The plans which were set for the period from January through September with regard to the state purchases of agricultural products and raw materials have been fulfilled.

Nevertheless, the speaker emphasized, we must thoroughly analyze as strictly as possible where and in what sections breakdowns have been allowed to occur; we must outline measures to be implemented for the purpose of correcting this situation and actually altering the circumstances even during the present year.

The principal shortcoming is the fact that the consumer-cooperative movement has not yet encompassed many units, including the machinery of Tsentrosoyuz and the republic-level consumer-cooperative unions. Certain economic managers have not thoroughly studied in a multi-faceted way or critically analyzed the situation; they are incapable of seeing with statistical accuracy into the

economic phenomena which are taking place.

Over the nine-month period, sales of alcoholic beverages decreased by 47 percent, and this cannot help but gratify us. But the losses in commodity turnover are far from having been fully compensated.

In some republics, for example, Kirghizia and Moldavia, the plans for retail-goods turnover have been drawn up in such a way that their growth rate for sales of alcoholic beverages is outstripping the increase in the sales of the remaining items. As a result, the Kirghiz and Moldavian consumer-cooperative unions failed to fulfill the nine-month plan with regard to total volume, but they are proceeding to over-fulfill the plan without the sales of alcoholic beverages, and are paying out generous bonuses. Moreover, four months ago the board of Tsentrosoyuz drew the attention of the consumer-cooperative unions particularly to the inadmissibility of such planning. It persistently demanded that the appropriate questions be posed to the republic-level governments and that the latter make the necessary changes in their plans. However, these and even several other consumer-cooperative unions have failed to undertake any specific steps, while the chief of the Tsentrosoyuz's Main Administration for Planning and Economics (A.M. Voronin) and the deputy chairman of the Tsentrosoyuz administration (N.A. Lupey) have not intervened decisively in this matter.

In September only one Estonian consumer union in the whole system fulfilled the plan for retail goods in circulation.

The non-fulfillment of the plan with regard to the total volume is to be explained by the shortcoming of commodity provisions, and this refers back to a reduction in commodity reserve supplies. Indeed, commodity reserve supplies have decreased since the beginning of the year by 3.5 billion rubles, but approximately half of this total is accounted for by alcoholic beverages. At the same time, in the Kazakh Consumer-Cooperative Union (U. Sarsenov) the level of commodity reserve supplies amounts to 133 days of goods turnover, in the Uzbek Union (A. Makhmudov)--165 days, and in the Tajik Union (A. Gazibekov)--185 days. For the consumer-cooperative system as a whole, this indicator amounts to 119 days, while, for example, in the Baltic republics it is no more than 80-85 days. Everybody refers back to the remnants of previous years, but even now people are taking things from the industry of their own republics: quite a few items which do not sell well. The proportion of slow-moving and shopworn items within the total make-up of reserve commodity supplies in the Lithuanian and Latvian consumer-cooperative unions amounts to 2 percent, in the Estonian union--0.5 percent, whereas in the Uzbek and Turkmen unions it amounts to more than 10 percent, and in the Armenian union--about 20 percent.

The report subjected the work of the Georgian Consumer-Cooperative Union to sharp criticism. Over the past nine months the plan for goods turnover with regard to the total volume was fulfilled here by only 92 percent; even without counting the sales of alcoholic beverages, the plan fell short. More than 40 percent of the stores and 33 percent of the public-dining enterprises failed to cope with the plan for retail-goods turnover in this republic. The growth rate in the turnover for non-food items was only half that planned, while the sales of light-industrial goods even declined. This consumer-cooperative union also yielded its position with regard to drawing its own resources into goods turnover; it failed to fulfill the plan for producing most types of production

items and the requisition purchases of agricultural products at the agreed-upon prices. The debts owed by this consumer-cooperative union to Gosbank and to the Tsentrosoyuz have exceeded 85 million rubles.

In June of last year a meeting of the Tsentrosoyuz Council adopted decisions concerning the radical improvement of the structure of goods turnover, unleashing an extensive trade in items which are of great social importance for the present-day rural areas. New assortment lists were approved, the nomenclature of the types of stores was clarified, and the make-up of services to be offered to the public was specified. All this must be followed up by concrete organizational work. But so far there have been no noticeable changes, either in respecializing the network or in activating trade.

At a meeting which was held a few days ago by the permanent commissions of the USSR Supreme Soviet the deputies subjected the Tsentrosoyuz to extremely sharp criticism for neglecting trade in construction materials. The proportion of these items in retail-goods turnover amounts to merely 2.7 percent, while in the Kazakh Consumer-Cooperative Union it is even less--1.1 percent. Only 5.5 percent are engaged in the turnover of items of cultural-everyday and sports types, while in the Azerbaijan, Tajik, and Armenian consumer-cooperative unions this figure is less than 4 percent.

It is far from everywhere that use is being made of the possibilities for expanding the second-hand trade in industrial items, the sale of items on credit, as well as the creation of a "do-it-yourself" network and departments. And all these comprise genuine reserves for increasing goods turnover.

The trade in food items is also developing insufficiently. Many consumer-cooperative unions have been unable to develop in food stores and in rural stores named "Goods in Everyday Demand" an extensive trade in fruit and vegetables, public-dining products, and items being turned out by cooperative industries.

The sales of culinary items and semi-finished goods through the retail-trade network is improving basically in those consumer-cooperative unions which even previously already had quite good indicators in this business. In the Ukrainian Consumer-Cooperative Union, for example, the proportionate share of its own public-dining products being sold in the stores has increased from 7.4 percent last year to 9.1 percent in the first half of this year.

And here the Russian Consumer-Cooperative Union widely proclaimed that the addition to its turnover, which could be produced this year alone by the republic's public-dining facilities and cooperative industry would amount to almost a million rubles. People were summoned to Moscow; seminars were held in Belgorod and Omsk. But not even one-fifth of the intended amount was actually obtained. The level of development of public dining in the rural localities of the Russian Federation has remained low; the kitchens of many restaurants and cafeterias are operating at only half capacity.

A major reserve for the development of goods turnover is city cooperative trade in agricultural products, purchased at agreed-upon prices.

Cooperative trade in agricultural products is developing actively and steadily in Omsk, Volgograd, Penza, Vinnitsa, Cherkassy, and Khmel'nitskiy. But this is not the first year that these cities have been listed. In many places, however, co-ops were not to be seen in the towns or in the kolkhoz markets; nor are they to be seen even now.

A serious test for co-op managers is the organization of such trade in Moscow. The Mosgorkooptorg (Moscow City Cooperative-Trade) Organization has been created, and in the very near future stores will be opened in all 33 of the capital's districts. Trade and requisition enterprises have been set up in 19 kolkhoz markets. The task is to bring into the capital a turnover worth as much as 500 million rubles (as compared with 16 million last year). But this task can be successfully accomplished only with the participation of all the republic-level consumer-cooperative unions. But so far a motivated, responsible attitude toward this matter has been manifested only by such consumer-cooperatives as the Tajik, Moldavian, Turkmen, as well as a number of oblast-level consumer-cooperative unions in the RSFSR. At the same time the Uzbek, Rostov, and Ukrainian consumer-cooperative unions have shown an irresponsible attitude toward this work; and they have grossly failed in their assignments with regard to supplying agricultural products to Moscow.

Today the strengthening of the co-ops' positions in the kolkhoz markets at industrial centers and a genuine influence on lowering market prices depend on the precise fulfillment of obligations by every consumer-cooperative union. And one may judge the level of discipline and organization in the consumer-cooperative unions by how the obligations will be fulfilled with regard to the delivery of high-quality fruits and vegetables for the city cooperative trade.

Analysis of the results of the work done by the cooperative industry testifies to the fact that, although the plan for selling products over the last nine months has been fulfilled by all the consumer-cooperative unions as a whole, one out of every four industrial enterprises has failed to cope with the task of fulfilling its plan. In certain republics there are even more such enterprises; moreover, there is an observed tendency toward their increase. In the Ukrainian Consumer-Cooperative Union (S. V. Litvinenko) during the first quarter such enterprises amounted to 28.5 percent of the total, during the first half-year--30 percent, and for all three quarters--more than 35 percent.

In Belorussia 38 percent of the enterprises engaged in cooperative industry did not cope with the plan for the nine-month period. Moreover, their number grew during the third quarter.

Substantial breakdowns were also allowed to occur in fulfillment of the plans for goods production in accordance with the products list. Thus, in September the plan for the production of sausage-type items had not been fulfilled by six republic-level consumer-cooperative unions. Moreover, in four of them (the Azerbaijan, Lithuanian, Moldavian, and Latvian) the production volumes were lower than they had been in September of last year.

During the nine-month period there was a decline in the production of bread and

bakery items, in particular, in the Ukrainian, Belorussian, Uzbek, Kazakh, Latvian, and Estonian consumer-cooperative unions. Of course, grain resources must be utilized economically. Nevertheless, the demands of the population must be satisfied more fully.

We cannot be satisfied with the situation as regards the production of non-alcoholic beverages. Although for the nine-month period as a whole the consumer-cooperative system coped successfully, in September eight republic-level consumer-cooperative unions seriously lagged behind, particularly the Ukrainian, Belorussian, Uzbek, Moldavian, and Latvian. Progress has been too slow in restructuring former wineries and shops to produce non-alcoholic beverages as well as preserves, juices, vinegar, infusions, and other food items. So far only 152 enterprises out of a planned 293 have been converted.

During the past nine months there has been no growth in the production of non-food consumer goods. The Russian, Ukrainian, Lithuanian, Moldavian, and Armenian consumer cooperatives all had declining totals as compared with last year's level.

Co-ops now have new opportunities for utilizing raw materials for fur-coats and other fur items. Beginning in 1987, the Councils of Ministers of the union republics will be granted permission to retain for their own disposition as much as 5 percent of furs and up to 10 percent of sheepskins, purchased by the consumer-cooperative organizations, for processing by enterprises of the consumer-cooperative system and the Gosagroprom (State Agroindustrial Committee). It is necessary to radically reorganize all work with regard to procuring and processing the raw materials for fur-coats and other fur items.

We need to be more decisive in this sphere in unleashing work with regard to developing cooperative forms for producing consumer goods. What we are talking about here are modest-sized, flexible co-ops which would be able to supplement the activities of the large, state-owned and cooperative enterprises; they could draw upon the labor resources by means of the participation in the production of consumer goods by pensioners, housewives, and other persons who are not employed in public production, as well as workers and office clerks, students and pupils during the time free from their basic jobs or studies.

Tsentrosoyuz has worked out a model set of regulations for a production cooperative, and we deem it necessary to proceed to create them without delay. In this connection, it makes sense to give some thought to handing over to the co-ops certain inactive, modest-sized industrial-type enterprises for consumer cooperatives, in the first place, for producing garments, sheepskin, fur coats, and similar items, as well as felt footwear, pottery items, construction materials, souvenirs, household articles, and those for cultural-everyday purposes.

The speaker leveled sharp criticism at the quality of the items produced by cooperative industry. Thus, for example, during the first half-year the Russian Consumer-Cooperative Union had to throw away a third of all the preserves tested, while the Uzbek Union had to discard more than 70 percent of its sausage products, and the Kirghiz Union--half of its confectionery items.

In talking about the results of the work done by the procurement sector, the speaker noted that the resources existing among the population, particularly in the remote populated points and the so-called farms with few commercial goods available, are far from being utilized everywhere. Consumer cooperatives account for only half of the purchases of commodity items of private plots.

This year the mechanism of sales of the above-plan products and 30 percent of the planned amount by kolkhozes and sovkhoses at agreed-upon prices has operated even more poorly. According to the operating data, only 2-3 percent of the products were sold by means of this procedure.

We must intensify and deepen our work with the private farming plots of citizens, having in mind increasing the role to be played by these plots in producing the most labor-intensive, little-distributed vegetable crops, berries, greens, spices, to decide in the localities themselves the questions of fully satisfying the population's needs for seeds and seedlings.

In the field of capital construction during these past nine months, according to the operating data, the plan for putting facilities into operation has been fulfilled. But still unchanged is the traditional, in the worst sense of that word, practice of planning, whereby the fourth quarter accounts for 70-75 percent of the total volume of the fixed capital. And don't we really need to reorganize this section? Now we must analyze every start-up project, to do everything so as to completely fulfill the plan. Particular attention ought to be accorded to introducing housing and other facilities in the social and cultural sphere.

During the current year the plan for profits (taking into account the losses of income from reducing the sales of alcoholic beverages) has been fulfilled on the whole, but such an evaluation is only suitable for paying out bonuses. Because, of course, the absolute total of the profits has declined. Regardless of the structural changes in the goods turnover, we need to obtain the receipts of the profits in the full amount, as provided for in the plan: it is precisely from the intended amounts of the profits that the sources are determined for financing capital investments, outlays for training personnel, social and everyday measures. Moreover, according to the operating data, there is a lag with respect to most of the consumer-cooperative unions, particularly in the Moldavian and Kirghiz Unions, as well as many of the oblast consumer-cooperative unions in the RSFSR and Kazakhstan. There are still no noticeable shifts in the work of safeguarding co-op property. The total number of embezzlements discovered has declined insignificantly. Over the elapsed period there has been an increase in embezzlements in the Ukrainian and Azerbaijan Consumer-Cooperative Unions. And in the Uzbek Consumer-Cooperative Union over the nine-month period the total amount of embezzlements and thefts comprised approximately one-fourth of all the embezzlements in the consumer-cooperative system. Analysis has shown that the causes of embezzlements have remained just the same: allowing access to materially valuable goods on the part of dishonest or completely untrained persons, mutual guarantees ("back-scratching"), protection extended over the embezzlers on the part of managers, confusion in the accounts, gross violations of the established procedure for

conducting inventories, and unauthorized leaves of materially responsible persons.

At the same time that we are working on completing the plans and assignments of the first year of the five-year plan, we are confronted with the task of intensifying the preparation and converting our system to the new conditions of management. The necessary documents have been worked out by Tsentrosoyuz, and the cooperative organizations will receive them soon. But despite all the importance of the normative-methodological developments, the success of the reorganization will depend, to a decisive degree, on how actively and conscientiously all employees--rank-and-file and managerial--participate in it.

The consumer-cooperative system has already operated for a long time on the principles of paying its own way and self-financing. After accounts have been settled with the budget, the profits obtained by the co-op people serve as the principal source of financing working capital, capital investments, training personnel, and other needs.

At the present-day stage we have created the prerequisites for carrying out a new phase in converting our organizations to self-financing, under which the contribution made by each group to the obtaining of income would be taken into account, and a direct motivation would be set up for increasing such income. Contributions for the purpose of capital investments are provided for to be set at a fixed size, for example, no more than 25 percent of the profits to be distributed. Other payments would likewise be limited by stable norms.

The task consists in making the transition to a truly full economic accountability. A simple paying one's own way is no longer sufficient now. What is required is the profitable work of each organization, of each enterprise of their earning profits in amounts necessary for dynamic economic and social development.

The new conditions of management are incommensurate with operating at a loss. Nevertheless, according to data for the first half-year, the consumer-cooperative system had more than 1600 self-supporting organizations operating at a loss. This is more than was the case for the same period last year.

We must, without losing a single day, proceed now to study such organizations, to analyze them in a timely manner, and carry out measures which would allow us to put an end to losses and ensure a normal profitability for all organizations; to actively increase the volume of economic activity, to increase goods turnover, to improve its structure, to expand the procurement of agricultural products at cooperative enterprises. It is important to ensure the complete obtaining of all accountable income, basic and trade discounts, price increases, markups, and reimbursements.

Large-scale reserves for effecting economies with regard to currency outlays and production costs are imbedded in raising labor productivity, reducing the routes and the unit factor of goods-movement, improving the use of all types of transport, accelerating the turnover of funds, and eliminating losses due to mismanagement. We need to analyze more deeply the indicators of return on

investment, and to achieve its increase.

We are confronted with the task of examining and solving the problem of improving the structure of the cooperative organs. In a number of places they have become cumbersome, the staffs have increased excessively, and this is incommensurate with the new conditions of management.

A concrete and objective analysis of the state of affairs must be conducted in every republic. It is important at present to correctly deploy our forces, to pull up the lagging sections, to unleash a struggle against any manifestations of a lack of discipline, mismanagement, inertia, and self-satisfaction. The plan for the fourth quarter and for 1986 as a whole, along with the socialist pledges, must be unconditionally fulfilled; all measures must be undertaken to accelerate the reorganization and intensify the contribution made by our system to implementing the decisions of the 27th CPSU Congress.

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Taking part in the discussion of this report were the following persons: S.V. Litvinenko, chairman of the board of Ukoopsoyuz [Ukrainian Consumer-Cooperative Union]; V.A. Roshchin, the first deputy chairman of the board of Rospotrebsoyuz [Russian Consumer-Cooperative Union]. Also speaking in this discussion were the following board chairmen of republic-level consumer-cooperative unions: T.B. Chilebayev--Kirghiz, V. I. Chigir--Belorussian, A.M. Makhmudov--Uzbek, along with A.G. Yashin, the first deputy chairman of the board of Tsentrosoyuz, as well as the following deputy chairmen of the board of Tsentrosoyuz: Ye.V. Sazanov, B.I. Gontar, and N.A. Lupey.

The following persons took part in the work of administration: V.P. Titov, an instructor in the CPSU Central Committee, and L.A. Belopetravichus, deputy chief of the department of trade and everyday services in the Administration of Affairs of the USSR Council of Ministers. A decree was adopted with regard to the question discussed here.

2384

CSO: 1827/16

FUELS

COAL INDUSTRY RECONSTRUCTION EXAMINED

Moscow IZVESTIYA in Russian 4 Aug 86 p 2

[Article by A. Ivakhnov, IZVESTIYA correspondent, under the rubric "USSR Supreme Soviet Between Sessions": "So The Mines Will Operate Better"; capitalized passages published in boldface]

[Text] At a joint meeting the commissions for energy and for science and technology of the houses of the USSR Supreme Soviet discussed implementation by the Ministry of the Coal Industry of the targets of the USSR's Energy Program by radically rebuilding the sector in the light of the resolutions of the 27th CPSU Congress.

In the past five-year plan the coal industry went further into debt. This situation is now being rectified. However, the pace of growth still does not match the tasks of the USSR's Energy Program. USSR Minister of the Coal Industry M. I. Shchadov informed the deputies that steps are being taken in the sector to accelerate the reconstruction of enterprises, develop and adopt new technology, and step up construction.

Deputy Yu. M. Svirin reported on the results of an on-site inspection by deputies. The main conclusions were that restructuring is proceeding too slowly. That many mines are not operating at full capacity. That the percentage of obsolete equipment at enterprises is too large. That restructuring of coal machine building is going slowly. And that the ministry is not paying enough attention to social problems, and is tolerating failure to fulfill housing construction plans.

Specific problems were referred to the ministry during the discussion of the reports.

NOT BY PICK ALONE...

"Present-day mining equipment," said deputy A. G. Khvorostyan, "can in no way satisfy the miners, especially for operations under difficult mining and geological conditions. We have too high a level of manual labor. There are no special devices for assembly and take-down operations. Plans to develop and introduce new equipment are understated, and even then their implementation

will change. Contacts are inadequate between the sector's scientists and production workers. I am proposing to set up a scientific-production association on the base of a sector institute and one of the Gorlovka mines, which would be responsible for producing and introducing the new machinery the miners need."

One of the questions put to the sector's management was: coal machine building comes under your ministry. Why is technical reequipping proceeding so poorly with you?

"To be sure," replied M. I. Shchadov, "we have been given plants that can turn out the most advanced equipment. But presently only one-third of the equipment produced meets world standards. It is planned during the current five-year plan to take out of production 110 models of obsolete machinery and mechanisms. Production is expanding of equipment to extract coal from narrow and steeply dipping formations, of means of automation, and of tunnelling machinery. Unfortunately, the problem of conveyor transport has not yet been solved."

Heavy excavators and several other machines for open-pit coal mines are made by the enterprises of Mintyazhmash [Ministry of Heavy and Transport Machine Building]. As noted in the speeches, demand for this equipment is being poorly satisfied, and more than half of the machinery produced does not come up to contemporary requirements. Does the ministry intend to rectify this situation? In replying to this question, the USSR Deputy Minister of Heavy and Transport Machine Building V. A. Aleksandrov stated that integrated programs have been worked out to improve equipment and more funds are being invested in developing the enterprises producing it. In Krasnoyarsk, for example, it is planned to quadruple excavator production. The number of sites for the factory repair of these machines will be increased by a factor of more than 2.5.

Deputy Chairman of the USSR State Committee for Science and Technology [GKNT] M. G. Kruglov acknowledged that the scientific and technical programs developed in past five-year plans under GKNT leadership provided only for the production of specific mining machines, rather than for systems of them. Now the task is to accelerate the development and introduction of tunnelling systems and to automate coal mining to the utmost.

INCREASE THE PACE OF CONSTRUCTION

Capital construction is an urgent problem for the sector. It is now being bungled.

Chairman of USSR Stroybank [Bank for Financing Capital Investments] M. S. Zotov said that the ministry itself is to blame for this. In the last five-year plan capital construction in the sector was handled worse than in the 10th Five-Year Plan, and furthermore, as in the 10th, the sector was among the most backward for this indicator. Industrial buildings were erected, but there was nothing to put in them. The reconstruction of enterprises has dragged on for many years. The Ministry requested increased investment, but did not completely utilize what it was allotted.

Thousands of families in the sector do not currently have an apartment, and many of them are living in structures adjacent to the mine. There are still 34 barracks in Bashkiria, and they are all occupied by the families of coal industry workers. In the first half of 1986 the level of implementation of investment plans was somewhat improved, but it is still inadequate. In this period the miners have failed to receive thousands of square meters of housing. No other sector is so far behind.

Much has been done in the sector to rectify the situation. But if the ministry does not strengthen its construction base, the resources lying on the ground will soon be exhausted, and the sector will again be in a serious situation.

M. I. Shchadov offered the opinion that, "In this difficult period for the coal industry it would make sense to free our ministry from the construction of facilities for other sectors, the volume of which is more than 1 billion rubles, and make it possible for us to concentrate our efforts on solving our own problems."

HOW WILL WE FUEL THE STOVES?

Several times the meeting participants referred to the matter of making coal briquettes for the populace. Deputy N. I. Samilyk mentioned specifically the status of the briquette factories in the Aleksandriyugol Production Association. Ten years ago more than 10 million tons of briquettes were produced here, but last year only 2.5 million tons were made. Here, as at the country's other briquette factories, the equipment has been operated far in excess of its lifetime. Although repair costs for it mount from year to year, the breakdown rate continues to grow. The roofs of the buildings where the briquettes are made are in a rundown state, and there have been cases where they have collapsed. One and a half million tons of unprocessed coal are deteriorating on stockpiles, and this year another 300,000 tons of it will be added. For more than five years local party and council agencies have been asking for the construction of a new industrial complex, but things aren't moving. Production plans for the broken down factories are simply increased. Someone should have to answer for this mess!

The deputy handed over to the meeting presidium a folder containing many years of correspondence on this matter and an album of photographs as evidence of the status of the buildings and equipment of the briquette factories.

"As minister," replied M. I. Shchadov, "I promise to put the buildings in order. But the matter of equipment is more complicated. We do not manufacture that equipment. We are now looking for a solution to this knotty problem."

URGENT STEPS ARE NEEDED

The deputies submitted a great many complaints to USSR Minugleprom.

"Since 1935," said deputy Yu. D. Ubilava, "development has been proceeding of the Tkvarchelskiy field, the main source of fuel for Georgia's metallurgical industry. In the 1950s six mines were operating at full capacity there. Today four mines have now been put on reserve. There is plenty of coal underground, but for some incomprehensible reasons the ministry has shut down mine construction in this city and curtailed prospecting operations. The equipment of the processing factory has become obsolete. The slag basins are located inside the city limits, and the air and soil have become contaminated from ash waste. Better coordination of sector and territorial planning could help Tkvarcheli get back its glory as a mining town."

Deputy V. P. Zimenok reminded the commission members of the contents of the article "Red Line on Karaganda's Plan" (IZVESTIYA, No. 167, 1986), which described mining operations beneath the city's residential areas. There has been virtually no filling of the mined out area, and as a result buildings have collapsed and power lines, water mains, and sewers have been broken. In the current five-year plan the miners have already sent warnings to 46 enterprises of their impending destruction. On behalf of the residents of Karaganda the deputy has asked the minister to set subsurface mining in order and to increase funding for housing in the city.

It is impossible not to agree with the views of deputy O. A. Kaybyshev, who reported on the state of affairs in the Bashkirugol Production Association. The tasks of the 11th Five-Year Plan have not been fulfilled here, and nothing is being done to rectify the situation. Nonetheless, the wage fund increased in that period, the association director became its general director, and the number of his deputies increased. There is an obvious disparity between the welfare of the association's workers and managers and the results of its activities.

Deputy Chairman of Gosstandart [State Committee of Standards] V. P. Yunitskiy expressed his committee's complaints. It had been planned for Kansk-Achinsk coal to be processed before delivery to consumers. However, it has been delivered mixed up with dirt. Instead of improving the quality of the coal, the ministry is trying to revise the standards. The deputies gave a proper evaluation to this approach by USSR Minugleprom to the issue of product quality.

A serious problem is compliance in the sector with the rules on safety equipment. Methane explosions and fires are still all too frequent in mines, and the injury rate is declining at a slow pace. The issue remains of setting up reliable technical prerequisites to improve the miners' working conditions. In the view of Chairman of Gosgortekhnadzor [State Committee for Supervision of Safe Working Practices in Industry and for Mine Supervision] I. M. Vladychenko the ministry must be more energetic in solving these problems. Instrument makers, chemists, and other associated sectors must assist the miners, and planning agencies must monitor the execution of orders related to the safety of mine operations.

...More and more notes were entered in the minister's notebook.

Deputy Chairman of USSR Gosplan A. M. Lalayants stated that in technical reequipping the coal industry is behind by at least two five-year plans. Out of 350 mines and processing factories checked, only one-fifth had reached the indicators attained by leading enterprises at home and abroad. The situation is being rectified, but there is no cause for complacency. USSR Gosplan will undoubtedly assist the sector, but USSR Minugleprom must better utilize the funds allotted to it. The important resources here are reconstructing existing mines and open pits and improving the design of new enterprises.

And it is of special importance for USSR Minugleprom to deal seriously with the solution of social problems to which the sector has long failed to devote the necessary attention.

12697

CSO: 1822/037

FUELS

TARGETS FOR COAL MINING DESCRIBED

Moscow KRASNAYA ZVEZDA in Russian 30 Aug 86 p 4

[Article by A. Gridnev, deputy director of TsNIEIugol [Central Scientific Research Institute of the Economics and Scientific and Technical Information of the Coal Industry], under the rubric "Science and Technology on the March in the Five-Year Plan": "Coal: A Fuel and a Raw Material"]

[Text] Coal occupies one of the leading places in the country's fuel and energy balance. It can still rightfully be called the "bread of industry." Every day many thousands of tons of this "solar stone" are produced by mines and open pits, and the demand for it is growing. In 1990, 780-800 million tons of coal will have to be mined. This is the task levied on the country's miners by the 27th Party Congress.

This is a difficult problem. The editorial office has asked Anatoliy Pavlovich Gridnev, deputy director of TsNIEIugol and candidate of technical sciences, to tell us how it will be solved.

The levels set by the party that the coal industry must reach in the current five-year plan are considerable by themselves. But let us not be deceived by these figures. There is still much more to think about and much more to do.

The coal reserves in the USSR are enormous. But, unfortunately, many of the deposits are located far from the sites of consumption -- in the east of the country and in sparsely settled regions. This considerably complicates mining and increases transportation costs. The 12th Five-Year Plan has therefore provided a number of fundamentally new solutions: burning coal at local power plants and transmitting the power over high-tension wires, and strict limitation on the siting of new or the expansion of existing energy-intensive industries in zones short of fuel. It is planned to improve coal quality. For this, new processing factories are being set up and the technology of mining and processing is being improved.

Without intensive development of the coal industry it is hard to imagine the country's future fuel-energy complex. But we must also consider that coal is now a highly valuable raw material for the chemical and metallurgical industries, and that it is synthetic gasoline, mazut, gas, and coke.

A little history. Coal has duly served people for many centuries and it has long played the role of the main source of energy on the planet. Only in the 50s and 60s of our century did it start to be squeezed, first by oil and then by natural gas, fuels more convenient in form and cheaper. Forever, so it seemed. There were even predictions that by the end of the century mankind would completely abandon coal.

In many countries coal mines and open pits were shut down. Gasoline, kerosene, and mazut -- endless files of tank truck and rail tank cars, caravans of tankers, steel threads of pipelines... It was hard even to imagine that one day these mighty rivers of oil would run dry. In a word, coal -- the planet's black gold -- went through some bad times.

But in the mid-sixties it was clear that oil and gas resources were far from boundless. The question came up: shouldn't we go back to coal? The deposits of it are enormous: out of the 12.5 trillion tons of standard fuel in the bowels of the earth, coal's share makes up more than 11 trillion tons. It can easily be transported and used instead of mazut in thermal power plants. Moreover, we have learned how to produce motor fuel and synthetic gas from it.

On the whole, there is every reason to believe that coal will be called on to play the role of a "buffer" fuel and to assume a considerable share of the burden of supplying power, until the time that new and more efficient energy sources are fully developed.

The Soviet Union has about half of the world's coal reserves: five out of seven of the planet's known giant basins are located in the USSR. Just one of them, for example, Kansk-Achinsk -- and not even the largest of them -- is enough, at the present level of mining, for several hundred years. About 30 percent of all the coal mined in the country now comes from the Donetsk Basin -- the oldest and largest coal basin in the country.

A special place is occupied by the Kuzbass, which has solid reserves of coal suitable for coking and power. The Ekibastuz Basin, where the volume of coal mined is expected to reach 150 million tons annually in the next few years, offers great opportunities for the open-pit mining of hard coal. The still vaster Tungus, Lena, and Taymyr basins remain almost untouched.

All this represents a genuinely inexhaustible storehouse of power in reserve. A storehouse whose potential is still far from fully tapped. It is no secret that in recent years the growth rate of the USSR's coal industry has substantially slowed down. This was mentioned specifically at the 27th CPSU Congress. For the past two five-year plans the sector has been working very intently, but has still not met its targets for coal mined or for increase in labor productivity.

This situation must be rectified in short order. The first steps have been taken. The sector has considerably surpassed its semiannual target. It now remains to keep up the pace achieved.

"Improve the quality of coal and increase the volume of processing it. Expand

the production of coal concentrate for coking..." So state the Main Directions of the Economic and Social Development of the USSR for 1986-1990 and the Period up to the Year 2000."

Putting it more broadly, the main task now facing the sector is, by the end of the century, to achieve the substantial inclusion of coal in the energy balance. And this is not just a matter of quantitative indicators. It is important to bring about a radical change in the attitude toward coal. It would be an extreme waste to utilize the old methods of direct combustion of coal in boiler furnaces and means of transportation. The mountains of ash and slag on the earth's surface and the tons of noxious substances in the atmosphere -- these are the lamentable attributes of coal power that should be consigned to the past.

It should be mentioned that the main growth of coal mining in the 12th Five-Year Plan will be achieved by the country's eastern regions, and about half of it in the coal basins of Siberia (the Kuznetsk, Kansk-Achinsk, and Irkutsk basins and the Trans-Baykal fields). This is where the main forces and means will be directed, so as to achieve in the shortest time a genuine and substantial increase in coal mined and to improve the main technical-economic indicators of the sector's overall operations.

Coal will be mined here by the open-pit method, which will increase to about 46 percent of total coal mined by the end of the five-year plan, and about 56-60 percent by the year 2000. Labor productivity under this method is higher by a factor of 10, and production cost is lower by a factor of 5, than in mines. The appropriate technology has been produced for this: excavators with a 20-cubic-meter bucket, excavator-draglines with a 100-cubic-meter bucket and a jib 100 meters long, and open-pit dump trucks capable of holding up to 180 tons of coal.

Naturally, the coal fields located in the European part of the country cannot be left out of account. An energetic search will be made here for further means of developing coal industry enterprises. Involved in this are many engineering and design departments, research laboratories, and scientific institutes. Much has already been put into practice.

A separate paragraph in the Main Directions of the Economic and Social Development of the USSR mentions the need to continue the technical reequipping and reconstruction of enterprises located in the Donbass. This is the oldest and largest coal basin in the country, and it has a good geographical location. And it would be extremely wasteful to halt mining here. It has been proven that, while there is still much coal in the Donbass, it gets harder to mine it every year. Many mines are already more than a kilometer deep, the coal seams have become narrower, and increasingly more of them are deep-dipping. The answer is to seriously reequip coal mining enterprises and to outfit mines with automated systems.

We have this kind of equipment. The Soviet Union was the first in the world to develop mechanized systems of mining coal in narrow and deep-dipping seams. For example, the Poisk-2 coal combine is capable of operating in seams only

0.3-0.8 meters wide. One of the innovations of Soviet coal machine building is the KM-103 mining system, which is designed to work coal seams 0.7-1.2 meters wide, with a coal gradient up to 35 degrees. The ANShCh mining system is unique in its design solution. When working a coal seam, it runs down it from top to bottom.

What about hydraulic mining? The adoption of this method by the Gidrougol Association in the Kuzbass made it possible to achieve labor productivity in coal mining that surpassed this indicator for the sector as a whole by a factor of 3.6.

Now the critical task is to improve the quality of manufacturing these machines and increase their reliability in operation.

A few words should be said about the Kansk-Achinsk Basin. Rapid development of KATEK is one of the most important conditions for the development of the country's fuel-energy complex. Favorable conditions here for coal mining have made it possible to build the country's 10 largest TETs, each with a capacity of 6.4 million kW, and new and up-to-date enterprises to obtain upgraded solid fuel, synthetic liquid fuel, and the whole gamut of chemical products.

The production cost of Kansk-Achinsk coal is the lowest in the world. However, its low heat-producing capacity, high (up to 40 percent) moisture content, and the extremely detrimental properties of its ash prevent its widespread distribution. Mainly, this coal is not suitable for ordinary transport by rail. In winter it freezes into a solid mass, and in summer, when it dries out, it turns to dust and has a dangerous tendency toward spontaneous combustion.

The arsenal of science now has many ideas for properly handling Kansk-Achinsk coal. They all come down to utilizing the coal as a raw material to be processed where it is mined.

The Moscow Institute of Fossil Fuel, for example, has developed a new technology for burning brown coal to obtain low-sulfur motor fuel, boiler fuel, and other valuable chemical substances.

Thanks to this technology, the chance has arisen of establishing completely self-contained and waste-free production. All useful components from a technical standpoint will be removed from coal delivered from the pit, and upgraded fuel will be forwarded to power plant furnaces and other customers. And this is another advantage of the new technologies -- the upgraded fuel is virtually free of ecologically harmful components. TES chimneys will cease polluting the atmosphere.

There is also much promise in the fundamentally new method of burning brown coal in MGD [magnetohydrodynamic] generators. Besides producing electric power, this method makes it possible to obtain virtually the entire gamut of hydrocarbons utilized in petrochemistry.

We now realize more and more the value of the mineral resources nature has

given us, and are learning to utilize them economically. The high goals designated in the plans for the current five-year plan require a new approach to the mining and utilization of coal. As noted at the June (1986) Plenum of the CPSU Central Committee, the fundamental thing here is to radically improve the indicators of industrial efficiency by accelerating scientific and technical progress.

12697

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FUELS

KIRGHIZ COAL INDUSTRY REVIEWED

Frunze SOVETSKAYA KIRGIZIYA in Russian 7 Aug 86 p 2

[Article by M. Imanaliyev, chief of the economics sector of the Academy of Sciences of the Kirghiz SSR, under the rubric "Kirghiz Coal: Problems of Developing the Sector": "Kum-Bel is Waiting..."]

[Text] Despite very intense competition from oil and gas, coal is still one of the most widely used primary sources of power and heat. The outlook for the development of the coal industry therefore deserves special attention. Especially in Kirghizia, which is one of the richest republics of the Soviet Union in reserves of coal. It holds fourth place in the country for hard and brown coal.

About 80 percent of the balanced coal reserves of Central Asia are located in Kirghizia, but very unevenly. Sixty-four percent are in Osh Oblast, 30 percent in Naryn Oblast, and 6 percent in Issyk-Kul Oblast. Slightly less than half the reserves lie at a depth of 1,200-1,800 meters, 33 percent at a depth of 600-1,200 meters, and 26 percent at less than 600 meters. About 16-17 percent of the coal can be worked by the open-pit method.

Despite such rich resources, more than 43 percent of the Kirghiz demand for coal is met by imports from other areas of the country -- Karaganda and the Kuzbass -- which are situated between 1,100 and 2,300 km away. Kirghizia continually suffers from a shortage of coal, and statistics show that in recent years this has gotten worse.

The main customer for imported coal is Northern Kirghizia, and three-fourths of the coal required goes to the Frunze industrial region and the Chuyskiy Valley. Almost all the imported fuel -- two million tons per year -- is "eaten up" right there. The disproportion between the existence of potential reserves in some areas and consumption in others is therefore increasing.

The average annual output of coal in Kirghizia amounts to several million tons, of which half is shipped to Southern Kazakhstan and the republics of Central Asia. Meanwhile, as already mentioned, approximately two million tons are imported. But is there no way to change this situation? I think it is time for this republic, which is in possession of such major fuel resources, to completely take care of its own demand and to give up the import of coal,

which costs a pretty penny. To do this we must increase the mining of high-calorie coal in Kirghizia by a factor of at least 2.5. Further development of the coal industry can be most rationally approached by organizing and putting into operation the more promising new coal fields and sectors and by automating the production process, not to forget the reconstruction and expansion of existing coal mining enterprises.

Analysis shows that it is economically important to develop on a priority basis and on a large scale the major hard-coal fields of the Uzgenskiy Basin -- the Kum-Belskiy, the Tuyukskiy, and the Karagashinskiy. This will make it possible to abandon the import of expensive coal from other regions of the country. Organizing industry to mine high-calorie hard coal at one of the fields of the Uzgenskiy Basin by the open-pit method will greatly lower fuel-production costs. This coal can be used to produce power and also as domestic fuel.

Among the especially promising hard-coal fields is Kum-Bel, which is located in Suzakskiy Rayon, Osh Oblast, not far from the cities of Uzgen and Dzhalal-Abad, at an altitude of 1,600-2,500 meters. It possesses favorable mining engineering conditions for development and is located considerably closer to the main consumers in comparison with the fields being currently exploited in the south of Kirghizia. Kum-Bel coal is hard and long-burning and is given the best D-G rating in our Donetsk classification, i.e., it has very high heat-producing properties. There is easy access to the field from the city of Dzhalal-Abad along the Kurgatskiy Valley, where there is a motor road. Development is already under way in two sectors -- Kerege-Tash and Tura-Su.

Putting Kum-Bel coal into production will have a large national economic effect. Development of the field should be started on a large scale, in order to increase the open-pit mining of fuel. This will supply the main customers of the northern part of Kirghizia -- the Frunzenskaya TETs in the city of Frunze and areas of the Chuyskiy, Issyk-Kulskiy, and Talasskiy valleys and of Naryn Oblast.

Increasing the mining of fuel in the republic overall will completely meet the demand of the republic's national economy and of domestic consumers, and fulfill contractual obligations to neighboring republics.

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FUELS

UKSSR TEN-DAY COAL PRODUCTION REPORT

Kiev PRAVDA UKRAINY in Russian 12 Sep 86 p 1

[Article by A. M. Grinev: "Miners, Pull Yourselves Together. Report on Operations of the Enterprises of UKSSR Minugleprom [Ministry of the Coal Industry] for the First 10 Days in September"]

[Text] In September the republic's miners committed themselves to mine 250,000 tons of coal over plan and to improve the rhythm of production, which slacked off during the summer. The first 10 days of the month are behind us. Was any great change in work achieved, and what results have there been? Replying to these questions is A. M. Grinev, chief of the Production-Technology Administration for Underground and Open-Pit Coal Mining of UKSSR Minugleprom.

"The tone in the competition for successful fulfillment of the plan in the first year of the five-year plan has been set by the Donetskugol, Krasnoarmeyskugol, Voroshilovgradugol, Rovenkiantratsit, and Shakhterskantratsit Associations, and others. Here coal is being mined above plan every day. I would especially like to mention the successes of the Krasnoarmeyskugol Association miners, who were the first in the Donbass to convert in the new year to the new terms for planning and economic incentive. The results of the work of the Krasnoarmeysk miners are heartening. They have mined about 700,000 tons of coal above plan since the first of the year and their attained labor productivity is 7.7 percent higher than the planned level. All the association's mines are fulfilling plans for coal shipments under contractual obligations, and they have improved the quality of the fuel.

"The level of mining from all-round mechanized long walls in the association has reached 95 percent, and the average daily loading per face was 885 tons, which was 148 tons above plan. In September the work of the Krasnoarmeysk miners also turned out well -- in the first 10 days they recorded more than 10,000 tons of coal in their above-plan report.

"Unfortunately, not everyone is working that well. For example, the sector has not coped well with the September program -- for the first 10 days the miners were about 160,000 tons in arrears. This shortfall shows up in the labor collectives of several associations. The following associations have shown minuses since the first of September:

Krasnodonugol	--	23,600 tons
Dobropolyeugol	--	21,000 tons
Stakhanovugol	--	20,600 tons
Antratsit	--	15,300 tons
Artemugol	--	13,200 tons
Makeyevugol	--	4,600 tons.

"This drop in coal output has occurred in these associations because effective management of production has slackened, up to 30 percent of the mines here have not mined the planned line of working face, the level of accidents to machinery and equipment is too high, and there have been absenteeism and tardiness on the shift. The situation is especially alarming at the Stakhanovugol Association, which has fallen 70,000 tons behind since the first of the year. And all because the association management lost sight of the problems of developing mining operations. They are constantly experiencing a shortage of working front here, and the loss of working time is too great in the mines.

"Sector headquarters is now exerting every effort to ensure above-plan coal mining in September as intended. For this, the lagging associations are putting reserve lines of working face into operation ahead of time and doing everything to improve the level of utilization of mechanized props. Special attention is being paid to advanced experience: key mines have been identified, where the work methods of the best mining collectives are being thoroughly studied. The Ukraine's militant detachment of miners, headed by its 100,000-ton vanguard communists, will exert every effort to ensure the unconditional fulfillment of the plan for the first year of the five-year plan and their socialist obligations."

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LABOR

OFFICIAL EXPLAINS INDIVIDUAL LABOR LAW

PM031551 Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 23 Nov 86 p 2

[Interview with A. Matveyev, deputy chief of the Labor and Social Questions Consolidated Department of the USSR State Committee for Labor and Social Problems, by correspondent L. Telen: "Personal Labor--Common Benefit"; first paragraph is SOTSIALISTICHESKAYA INDUSTRIYA introduction; date and place of interview not specified]

[Text] The USSR Supreme Soviet session adopted the law on Individual Labor Activity. What are the prospects for its development in our country? Will individual workers be able to compete in the very near future with "moonlighters" and private operators? How advantageous is such activity to the socialist state? Our correspondent L. Telen talks about these problems with A. Matveyev, deputy chief of the Labor and Social Questions Consolidated Department of the USSR State Committee for Labor and Social Problems.

[Telen] You will hardly find anyone among us who has never used the services of a private operator--either a tailor, or a painter, or a coach.... It would seem that people engaging in individual labor activity long ago became firmly established in our life. Moreover, their labor is legitimized by the constitution. Why then, Arseniy Borisovich, did the need for a special law arise? What circumstances gave rise to it?

[Matveyev] You are right, individual labor activity is not only permitted by the constitution but is also, indeed, highly developed in our country. However, the problem is this: By no means all who engage in it operate legally, on legitimate grounds. No, of course it is not a question of malicious violators of law and order, but of something else. Of the fact that many people, although they engage in necessary activity, do so illegally and on the sly, behind the state's back. And most frequently in ignorance of the laws. The state has virtually no control over their activity and does not tax it or regulate it. And it is this that runs counter to the letter of the constitution, which obliges the state to regulate such labor. Why does this happen? Only because the existing normative acts are no longer capable of embracing all kinds of individual labor activity.

And this is the result. According to official statistics, we have just over 100,000 individual workers, coaches, doctors in private practice, and so forth, but according to our selective research, there are several times more of them!

Thus the law is needed, above all, to regularize the already existing kinds of individual labor activity and clearly define its place in social production.

[Telen] In other words, the new law concretizes the corresponding article of the constitution and ensures its practical realization?

[Matveyev] Exactly. There can be no question of any departure from the principled positions of socialism or of introducing private enterprise activity. And the new law only confirms this. The state permits and places under constant control those kinds of individual labor activity that are useful to society and, thus, to each of us. Organs of power are also obliged to keep a strict eye on incomes--they must correspond to the expenditure of personal labor and, thus, to each of us. Organs of power are also obliged to keep a strict eye on incomes--they must correspond to the expenditure of personal labor and to the principle of social justice. And, finally, the state retains the right to encourage precisely those kinds of services that are currently in short supply.

[Telen] At the time when the draft law was still being drawn up, there was wide discussion of its possible variants in the press, including our newspaper. There were different viewpoints, but probably everyone agreed on one thing: It is necessary to remove artificial restrictions on those kinds of activity that have already won our recognition.

[Matveyev] Yes, the law directly indicates a whole range of activity in which the exercise of personal initiative was not encouraged or was even prohibited, even though such activity was appreciated by the population. Handicraft workers, for example, are permitted to make gardening and truck gardening tools, which are still in such short supply. The construction of dacha cabins, home work by hairdressers and beauticians, and motor vehicle repairs are deemed legitimate. Spheres such as coaching or, say, carrying passengers in private vehicles are also open to personal initiative.

But I wish to emphasize that the law does not enumerate and is not meant to enumerate all the permitted kinds of activity without exception. It defines just the chief kinds. Plus those that are categorically prohibited. It is up to local organs of power to authorize kinds of individual labor activity not stipulated in the law.

[Telen] That is, the rayon or city soviet can independently decide whether or not it is worth its while to involve individual workers in developing, say, public catering?

[Matveyev] Quite right. In the Baltic republics, for example, the use of the family contract is now being tried out in the operation of cafes, bars, and diners. This is still just an experiment. If it is crowned with success, well, then, bon voyage, as the saying goes. Organs of soviet power will be able to legitimize this kind of individual labor activity at their discretion.

[Telen] Nevertheless, Arseniy Borisovich, the law also contains very strict provisions which do not permit any free interpretations....

[Matveyev] The law is the law. As a political document, it must firmly and unambiguously formulate the chief principles of state policy in a particular sphere. And these also exist in the sphere that you and I are talking about. Individual labor activity is based exclusively on the personal labor of citizens and members of their families. The law resolutely prohibits the use of hired labor. And, of course, there can be no question of any local indulgences here. The only persons who may engage in individual labor activity are citizens of full age /WHO PARTICIPATE IN SOCIAL PRODUCTION--IN FREE TIME OUTSIDE THEIR MAIN JOB/ [capitalized passage between slantlines printed in italics]--housewives, invalids, pensioners, students, and pupils. True, there is one proviso here. Taking needs into account, organs of power may also permit able-bodied people not employed in social production to engage in individual labor activity. But only in cases which will be provided for in the legislation of the USSR and the union republics. As you see, the law stands guard over the state interest: Individual labor activity must supplement social production not undermine it.

[Telen] But the law has very little to say about material supplies for this activity. And fears immediately arise: Will some people's "work" not prompt them to embezzle? Will it be possible, for example, to provide a motor mechanic with scarce spare parts on a legal basis?

[Matveyev] A principled approach has been formulated. The Gosstab, its territorial organs, and the union republic councils of ministers have been given the duty of supplying individual workers. It is up to the suppliers themselves just how they tackle this problem. But this is the way that seems very promising to me personally. Local soviets, which have a good idea of the scale and nature of individual labor activity in their region, notify the suppliers of that activity's material needs. And the suppliers in turn allocate additional funds to local trade, with an eye to individual workers. The registration certificate or license should ensure the right to out-of-turn service.

[Telen] So the state is ready to give the individual workers a helping hand?

[Matveyev] How could it be otherwise, if we are talking of work for the good of society? The local authority or enterprise must hire out premises and tools to them, and the bank must grant them loans. However, it should be remembered that all the advantages here are on the side of individual workers united in cooperatives or working under a contract with state enterprises.

[Telen] Chatting with soviet workers, financial inspectors, and even with individual workers themselves, I have repeatedly seen for myself that the problem of control over incomes is almost the chief source of anxiety for them all. True, some are concerned about whether this control will be too soft, and others whether it will be excessively strict. Will the law that has been adopted satisfy both sides?

[Matveyev] The law? Undoubtedly. Entrusting all control to local soviet ispolkoms and granting them the right to issue registration certificates and licenses, it firmly defines the nature of taxation. And tax, as is known, is probably the most flexible form of state control. The sizes of taxes will, of course, be differentiated according to the kind of activity.

Also take into account the fact that the individual worker must conscientiously enter his income and expenditure in an account book. And regularly submit an authentic earnings declaration to the financial organs. Concealment of profit will be regarded as a direct violation of the law.

[Telen] Some readers--and this can be seen from their letters to the editors--expect the new measures to accomplish almost a revolution in the consumer services sphere. What is your attitude to these hopes?

[Matveyev] In my opinion, they are very naive. State organizations will continue to bear the brunt of the concerns about services for people. The Law on Individual Labor Activity--and this should be clearly understood--is not a change of course but just a new and, let us hope, fruitful stage in the development of the sphere which is directly called upon to serve the person and his needs and requirements.

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CSO: 1828/44

EDUCATION

EDUCATOR URGES REORGANIZATION OF VUZ SYSTEM

Moscow PRAVDA in Russian 21 Oct 86 p 3

[Article by V. Sokolov, rector of Krasnoyarsk University, doctor of physical-mathematical sciences, professor, chairman of the Regional VUZ Council of Rectors: "Tomorrow Begins Today; a Time of Change for Higher Schools"]

[Text] Reorganization of higher schools is in progress. And not only because the Minvuz [USSR Ministry of Higher and Secondary Specialized Education] has commenced issuing new instructions. It started long ago, gradually, in individuals VUZes and departments where administrators and collectives sensitive to the needs of the time were constantly aware that the VUZ department plays a singular and, in a sense, a leading role in the socioeconomic and cultural life of our society. Practical experience has shown for some time the restrictiveness and conservative nature of many rules and procedures followed in the administration of higher schools.

Keeping the above in mind, it seems to me that it is not enough to raise the majority of VUZes to the level of the leaders. We are faced with the task at the present time, and not in the distant future, of overcoming the individualistic psychology of educational institutions. To do this, it is necessary to free universities and institutes from small-minded wardship, petty limitations and instructions which tend to discourage initiative. In this way we can create a climate favorable for developing the higher schools in the next few years to their maximum potential.

Thus, I see a promise of successful reorganization in our access to the experiment acquired by leading VUZ collectives which we can use as a basis. Why are so many of us unable to shed a feeling of dissatisfaction? Perhaps due to an apprehension that the matter will once more end with half-measures, superficial changes, and a mere semblance of decisive actions? The matter is adversely affected by the school reform, which is slipping and sliding and going nowhere. I, as chairman of the kray educational commission, know that this is not mere hearsay. Why is this so?

In my opinion, this is because basic problems have not been addressed in the course of the school reform. They include the organizational structure and

administrative system (in particular, interaction between higher schools and science) and failure to confront in a decisive and fundamental manner the question of personnel policy in this area, with the result that strategic goals are being undermined by tactical and short-term solutions.

Unfortunately, the symptoms of this bureaucratic approach to changes in higher schools are already being felt. Here are several examples.

In a lead article the 5 September edition of PRAVDA described how a discussion which was substituted for an entrance examination amounted to no more than a set of Minvuz instructions relating to office procedures. At about the same time, it was publically stated at a Minvuz USSR conference that "the rights of higher school rectors will be expanded, but only with the imposition of severe limitations." This is a very typical example of traditional thinking on the part of ministry workers, whereby extreme reluctance to make a particular change is masked by a promise to consider new demands.

No, the logic of bureaucracy cannot be explained by mere references to inertia and a habit of retaining old ways. It has its own roots, which supply the needed arguments and deliberations. Let us see if we can determine the origin of this surprising logical.

In the middle of the 1950's, along with a growing number of VUZes in the country, greater student population and larger absolute associated expenditures, the relative share of expenditures for higher schools started to show a steady decline. Thus, in the period from 1950 to 1981 the ratio of expenditures for higher schools to the national income dropped from 1.6 percent to 0.8 percent, i.e., it became half as much. The ratio of expenditures per student to the national income in terms of per capita population decreased from 2.3 to 0.5, i.e., to about one-sixth of the previous level.

It is understandable that the attempts at the sometime unjustified economy placed the system of planning, financing, administration, and organization of higher schools in a position where it became necessary to intensify departmental isolation of VUZes, tighten up regulation of VUZ activity, and introduce standardized educational plans which would not change for decades.

Due to the system of indices characterizing the operation of an individual VUZ or university department, the higher schools built a wall around themselves and became isolated, a condition manifested primarily in personnel policy. The typical VUZ instructor is presently molded, education and becomes "degreed" in accordance with the system secondary school graduate--college students--graduate student (candidate for advanced degree)--instructor in a department. Without an influx of fresh blood from science and industry, VUZ pedagogy started to perpetuate itself uncritically, a situation which leads nowhere.

The self-imposed isolation of VUZes is fostered by a number of factors, including the system whereby graduates are not assigned employment (the so-called direct agreements made with enterprises are "fueled" primarily by the enthusiasm

of VUZ instructors); the limitations imposed, essentially a prohibition against holding more than one teaching position; and the rigid connection between teacher salary and academic degree, which as a rule constitutes a barrier that is difficult to overcome for the specialist coming from an area of the national economy.

Let me touch on VUZ science. It is generally known that the higher schools hold almost half of the doctors and candidates of science, carrying out research which accounts for no more than several percent of the total amount of scientific work performed in the country. This is not merely a matter of a lagging material base and limitations of salary funding. The trouble is that science for many VUZes has become an activity accorded literally tertiary importance, since the VUZ research sectors are associated with the third salary category. For this reason, VUZ scientific work is looked upon merely as a means of preparing dissertations.

To clarify the situation, let us address the issue of the rise of science as a direct productive force. Although it stands on its own merits, certain key figures in science and higher education regard science as having a more or less single purpose: as a mechanism for transferring discoveries, technologies and developments from research laboratories to industry. This mechanism --and it is a mechanism--is the object of attempts at adjustment, improvement, and reorganization. However, along the way a major consideration is lost: Who serves as the agent implementing the new knowledge? The scientist and the production worker seem to wind up on the opposite ends of ideas and potential application, while the specialist's role, although acknowledged to exist, remains in the shadows.

The relative importance of components in this triad has been the subject of much special research. But this question has not as yet been given a theoretical interpretation. In this connection, Karl Marx, discussing in his time the problem of labor division in a highly-developed machine-based industrial system, introduced the concept of aggregate laborer, and, having in mind labor division in society in general, that of aggregate worker.

In this regard he stated, "To perform productive labor, it is no longer necessary to become manually involved; it is sufficient to be an instrument of the aggregate laborer and carry out one of his subfunctions."

At the present time there is increasing growth in the share of workers in non-productive areas in the structure of the aggregate worker, primarily in education and health care, i.e., in those branches where the aggregate labor force is trained, molded and maintained at the proper level. At the same time, the accumulation of knowledge, development of science, and creation of new technologies and types of manufacturing unfailingly raise the requirements made of the general education level and of the professional qualifications of the individual worker.

In this light, it is unthinkable to approach the system of specialist education and training as one would some area which is far removed from production, an

area which merely takes away from the latter the necessary material resources. The level of material investments in this case should be in harmony with the prospects of production development and should promote timely and balanced perpetuation of the aggregate laborer. Thus, for us, the important aspect is not so much keeping track of the changes occurring in structure of the aggregate laborer as it is foreseeing and managing them, in the process attaining maximum efficiency in social production.

Thus, sooner or later we will be faced with the task of gathering together under the purview of a single government institution all the problems associated with perpetuation of the aggregate labor force. The organizational and managerial variegation and departmental isolation of individual components and branches of the system of personnel education, training, and utilization already are complicating, and sometimes rendering impossible, the production of a unified and strategically founded policy in this area.

Let us not try to guess when the time will be ripe to set up an institution capable of uniting all education components. However, gaining in importance is the problem of how to break the system of closed circles in which higher schools are held and place the latter into a position favorable for the national economy.

A question which is becoming increasingly important is that of holding more than one professional position at the same time. It is becoming one of the most significant instruments in overcoming the "no man's land" existing between higher schools and production. For this reason, in addition to merely restoring the multiple-position privilege to its former position, it is also necessary to take steps designed to attract foremost specialists to VUZes, whether they have degrees and titles or not. Needless to say, questions relating to number of multiple-position holders and specific persons qualifying for work at the VUZes should clearly be resolved within the competence of the individual VUZ.

I believe that the overall success of our reorganization will largely depend on the limits set for this competence. The majority of the present limitation, instructions, and guidelines regulating the initiative and independence of the VUZ administrator are simply a manifestation of distrust, of apprehension that the official may be a potential swindler. In this connection, a person who is actually less than honorable is adrift in a sea of instructions, blindly observing their requirements, while an administrator who is forced to resort to infractions in order to carry out a legitimate government order is called to task for deviating from outdated regulations.

It is also time to grant greater independence to school heads in financial matters. First and foremost, it is necessary to remove the salary limitations of instructors and researchers within the confines of the individual VUZ. The category of NIS [Scientific research department] should correspond to the category of VUZ, although the salary fund in the beginning may be less. At least the category will be the same. It is also necessary to grant the VUZ

proper for every school year the right to establish a proportional relationship between the scientific, teaching, and administrative workload for each research and education worker.

In general, the success of the higher school reorganization in progress will depend to a great extent on how successful we will be in mobilizing all the resources needed to resolve the problems facing us. Dispute here centers mainly around the "wastefulness" or "economy" of educational institutions. It is a matter of developing a mechanism for distributing resources in the interests of higher education in general and of perpetuation of the aggregate laborer, i.e., the matter in the final analysis concerns improving the efficiency of social production. It is understandable that the lack of balance, which has been developing for decades, cannot be eliminated in 2 or 3 years. However, it is also clear that now is the time to lay the groundwork for the effective resolution of these problems within the next 10 to 15 years. In this connection, the experience gained by our best VUZes should definitely be taken into account for the attainment of both operational and strategic goals of the reorganization.

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INTERSECTOR NETWORK DEVELOPMENT

IMPROVING TRANSPORT, FREIGHT FLOW IN UKRAINE

Kiev EKONOMIKA SOVETSKOY UKRAINY in Russian No 9, Sep 86 pp 67-70

[Article by N. Borisov, subdepartment chief, State Planning Committee UkSSR, under the "Transport Economics" rubric: "Improving Transport Economic Relations and Rationalizing Shipments in the Ukrainian SSR"]

[Text] In Basic Directions of USSR Economic and Social Development for the Years 1986-1990 and the Period to the Year 2000, it is specified that transport's primary problem is timely, high-quality, and complete satisfaction of the national economy's and population's requirements for shipments and increasing the efficiency of its work. The solving of this exceptionally difficult problem depends upon the material and technical supply (MTS) system's highly organized activity, as well as upon transport work's efficient organization for timely freight delivery. In practice, it is necessary to bring about diverse transport economic [transportno-ekonomicheskkiye] relations that are characterized by different methods, quality, and speed of transporting. Under these conditions, ever greater attention must be devoted to optimizing these relations and, first of all--to curtailing inefficient shipments, establishing proper order in the placement, specialization, and cooperation of production, and eliminating the return [vstrechnyye] shipments burdensome for our whole economy.

Eliminating inefficient shipments, and reducing transport costs on this basis, constitute an important reserve in the growth of national production's efficiency. Any transport work requires appropriate expenditures that increase the cost of products. As is well known, the share of transport expenses in the cost of national-economy products reaches 10 to 12 percent at the present time.

Rationalization of shipments is accomplished both in the transport area and in the production and turnover areas. In the production sphere, it is associated, first of all, with a set of measures providing for reducing the bulk of the freight being shipped (pressing, briquetting, concentrating, barking of timber, and the like) and making more complete use of raw materials in the process of producing finished products (combining and subcontracting [kooperirovaniye] production).

Thus, for example, because of the lack of capacities for concentrating it, the coal being mined in the Minugleprom UkSSR [Ministry of the Coal Industry UkSSR] mines of the "Pavlogradugol" ["Pavlograd Coal"] Production Association is shipped from the Dnepr Railroad's Aromatnaya Station to mills of Donetsk and Voroshilovgrad Oblasts in a volume up to 5 million metric tons annually. After its concentration, about 2 million metric tons of the coal is transported in the return direction, and the additional transport expenses in the process amount to about 5 million rubles. At present, the matter of beginning construction of a Pavlograd concentrating mill during the 12th 5-Year Plan is being decided.

Rationalizing shipments in the turnover sphere is associated with the balance problem of plans. As is well known, the USSR Gosplan [State Planning Committee] correlates product production and consumption by making all of 400 material balances in the 5-year plan and 2,000 in the annual plan. In the USSR Gossnab [State Committee for Material and Technical Supply], a list of kinds of products being produced and distributed is developed in detail up to 15,000 kinds, and in the ministries--up to 50,000. At the stage of assignment of suppliers to consumers by the USSR Gossnab's agencies, the list is broken down again into groupings one-tenth to one-fifteenth as large. In the national economy, 24 million kinds of industrial and agricultural products are produced. The correlation of production and demands in specific terms is accomplished by the associations/enterprises directly, through contractual relations. Consequently, these shape the transport economic relations in the country, so they also predetermine transport's work. To the extent that these relations are efficient, to that extent, also, are the transport work and scales of shipping work efficient. Thus, rationalizing shipments in the turnover sphere is a direct, functional task of the material-and-technical-supply and finished-product-sales agencies. It must be noted that the statewide MTS system takes in only about 60 percent of the commodity-turnover volume of production means in the country. The rest of the products is distributed in decentralized fashion. The greatest number of inefficient shipments occurs in the latter case.

The main principle of efficiency in carrying out transport economic relations is founded in the development and introduction of normal freight-flow direction charts. Charts of normal directions of freight flow, envisaging that order of assigning suppliers to consumers which will ensure the supplying of a given kind of product to all of its consumers with the minimum amount of transport work, are being introduced actively in the republic. At the present time, about 70 percent of the total volume of freight being carried by the republic's railroads is covered by charts of normal freight-flow directions. These freight flows are developed by the Gosplan UkSSR [State Planning Committee UkSSR] and the Gossnab UkSSR [State Committee for Material and Technical Supply UkSSR], and are approved by the MPS [USSR Ministry of Railways]. Besides this, a plan for inter-oblast deliveries of local construction materials is put together annually, in the drafting of which, the conduct of barter operations in a volume of about 5 million metric tons is foreseen.

However, it must be noted that the freight-flow charts being developed in the republic do not fully meet the requirements being presented. These freight flows often are developed without considering territorial changes in production and consumption placement. Moreover, their development actually is based upon a past period's information, in consequence of which, a certain element of inefficient transport economic relations is introduced in a normal freight-flow chart's development stage out of consideration for departmental interests and errors in production placement. This tenet is confirmed by the practice in planning deliveries of castings, forgings, and stampings. Thus, the machine building organization that has taken shape in the country, based on integrated plants with closed-cycle production, has led to dispersing the production of cast and forged semi-finished products and products of general machine-building use. The ministries and departments are trying to satisfy their plants' requirements for the semi-finished products through intra-industry subcontracting [kooperirovaniye], accompanied, as a rule, by increase in long-distance and return shipments. The inefficient shipments (over 500 kilometers) of castings, forgings, and stampings around the republic amount to more than 1 million metric tons. More than 75 percent of them are attributable to intra-industry deliveries. Considering the extremely long, return, parallel, and crisscross freight flows, the shipments of only about 40 percent of the volume of castings are economically advisable. The primary reason for the existence of a large volume of inefficient, subcontracted semi-finished-product deliveries is the departmental approach to developing the semi-finished products' production. Analysis shows that, whereas inter-republic subcontracting relations create 23.4 percent of the total volume of deliveries and 19.2 percent of the volume of receipts, they account for 62 percent of the transport expenses by cost of shipments.

Departmentalism is the main cause of inefficient shipments' occurrence in the turnover sphere, which is apparent at a glance in the practice of organizing the supply and transport of reinforced concrete products and structures. In the republic, reinforced concrete products and structures are distributed by 30 ministries and departments, under the authority of which are about 500 manufacturing plants for these products. These shipments can be put in order on the basis of further improving the product planning system on a centralized basis.

Rationalizing shipments in the transport sphere--this is a problem, first of all, of efficient utilization of all forms of transport. And the transport organizations, primarily, bear the main responsibility in this matter. Let us examine this situation in an example of the organization of shipments of sugar beets.

Annually, 25 percent of the total volume of the beets grown in the republic, about 8 million metric tons that is, is carried by rail transport, and about 70 percent of this amount is carried for a distance of 50 kilometers or less. Calculations show that approximately 4 million metric tons of the beets can be switched to motor transport, which would permit closing about half of the beet receiving points adjacent to railroad stations, reducing rail transport's inefficient transport work by more than 200 million ton-kilometers, freeing 700 freight cars in daily loading, avoiding losses of almost 60,000 metric tons of beets (through eliminating the loss during repeated transshipment), and obtaining an economic benefit in the amount of 6 million rubles.

The railroads carry about 10 million metric tons of freight for a distance of 50 kilometers or less, which freight, according to all technical and economic indices, can be handled by motor transport. In their turn, the truckers carry over 10 million metric tons of freight for distances of 500 kilometers and more alongside the railroads. Naturally, this freight should be carried by rail transport. A substantial economic benefit can be obtained from rationalizing these carriages.

Let us analyze the basic causes of inefficient shipments' occurrence.

Firstly, there are deficiencies in evaluating, determining the volumes, and taking account of inefficient shipments. It does not appear to be possible to provide a complete analysis of the dynamics of inefficient shipments at the present time, inasmuch as the USSR TsSU [Central Statistical Administration] agencies have not made provision for taking account of such shipments. For all practical purposes, isolated situations or facts in the total volume of deliveries come to light during the planning of shipments, and steps to eliminate obvious inefficiency of shipments are taken only in their regard.

Secondly, the solving of the problem of material-resources distribution and efficient distribution of shipments by forms of transport is scattered through various ministries and departments at the present time. Like the SOPS UkSSR [Council for Studying Productive Forces UkSSR], the Gosplan UkSSR's ENII [Scientific Research Institute for Economics], and the other scientific research institutes, these do not have at their disposal a complete analysis of the interregional and intraregional economic relations, their rates of growth, and their advances in structure, which takes the transport factor into account. From time to time, research is done on individual kinds of freight. Thus, the Ukrainian Branch of the USSR Gosplan's Institute for Complex [Integrated] Transport Problems did work on the status of shipments of non-ore construction materials, beets, and coal.

Thirdly, there is insufficient consideration of the transport factor when emplacing new production units. Thus, in planning and constructing the Gossnab UkSSR's Kiev Cardboard and Paper Combine, the factor of its emplacement on a bank of the Dnieper River was not considered. Instead of providing for the construction of a dock [wharf, quay, or pier], and the receiving of wastepaper by the waterways from the regions associated with the Dnieper, the entire volume of this scrap material has to be carried on the railroad.

Fourthly, there are flaws in inter-republic cooperation. Thus, the Ukraine, being a major consumer of scrap metal, annually exports 1.2 million metric tons of it, and simultaneously receives about 5 million metric tons from other Union republics.

A lot of work is being done in our republic to rationalize freight shipments. Annually, on the basis of suggestions that come in from the ministries, the departments, and the railroads' administrations, measures are prepared, and a joint Gosplan UkSSR and Gossnab UkSSR decree is issued. Thus, implementing

one of these measures has permitted increasing the production of grade [marka] A-76 automotive gasoline at the Lisichansk NPZ [Oil Refining Plant, Oil Refinery], fleet black oil [mazut] at the Kherson NPZ, and heating and diesel fuel at the Odessa NPZ. This has made it possible to reduce the importing of these petroleum products from other republics.

A procedure of carefully examining the monthly plans being presented by freight shippers has been instituted on the railroads for the purpose of discovering and eliminating short-run and excessively long-distance shipments, as well as inefficient freight shipments not in accordance with the established charts of normal directions for freight flows. The railroads annually eliminate over 80,000 freight cars from the fully developed plans.

Regardless of the tight fuel situation, about 1 million metric tons of freight being shipped for short distances is switched to motor transport annually. At the present time, shipments of freight by rail transport for distances of 50 kilometers or less, which can be effected by motor transport, are estimated at about 10 million metric tons in volume.

During the years 1976-1985, inefficient shipments in the republic were reduced by 50 billion [milliard] ton-kilometers, which amounts to approximately 10 percent of the annual freight-turnover volume of the republic's six railroads.

Work is being done to switch freight shipments to river transport. In the course of the 11th 5-Year Plan, about 1 million metric tons were switched annually on the average. There exist real potentials for increasing the volumes of freight shipments with water transport's participation. However, lack of the necessary number of departmental docks is a restraining factor. Thus, the availability of a dock in the city of Nikopol's vicinity would permit shipping, in through water and mixed rail-water transport, 800,000 metric tons of crushed rock from Dnepropetrovsk Oblast to Kherson and Nikolayev Oblasts, 500,000 metric tons of bentonite clay from Minchermet UkSSR [Ministry of Ferrous Metallurgy UkSSR] enterprises for the riverside keramzit-gravel [fired-clay gravel, principally used as lightweight concrete aggregate] plants, 300,000 metric tons of sand from Zaporozhye to Nikopol, etc.

In making an analysis of the freight flows in gypsum and limestone materials for chemically enriching soils, the existence of a considerable number of inefficient shipments was established. Thus, shipments of (phosphogypsum) [fosfogips] were being made from the Vinnitsa Chemical Plant to Kiev, Chernigov, and the Crimean Oblasts, and in the return direction--from the Dnieper Chemical Plant to Kiev, Kharkov, Odessa, and Nikolayev Oblasts. Shipments were being effected from the Sumy "Khimprom" ["Chemical Industry"] PO [Production association] to Dnepropetrovsk Oblast, etc. The Gosplan UkSSR, the Ukrainian Branch of the USSR Gosplan's Institute for Complex [Integrated] Transport Problems, and the Ministry of Geology UkSSR have developed normal freight-flow direction charts for gypsum and limestone materials for chemical improvement of soils. These freight-flow charts were developed on a computer [EVM], taking efficient assignment of suppliers to recipients into account, and excluding return and excessively long-distance shipments. Application of the freight-flow charts since the second half of 1984 has made it possible to reduce expenditures on transporting gypsum and limestone materials by 2.5 million rubles per year.

Shipments of petroleum products in rail transport are growing in significantly greater amounts than the total volume of shipments is growing. The transport expenses in the USSR Goskomnefteprodukt [State Committee for the Supply of Petroleum Products] system annually amount to about 2.5 billion [milliard] rubles. In view of this, the problem of reducing them through improving planning and rationalizing the distribution of petroleum product shipments among the different forms of transport is extremely relevant. Inefficient shipments of petroleum products occur primarily because of failure of the petroleum product assortment being produced by a number of oil refineries (NPZ's) to correspond to the requirements of the economic regions associated with them, as well as failure of the oil refining systems at individual NPZ's to correspond to the grade of oil being extracted at the nearest oil fields.

The republic annually obtains up to 70 percent of the petroleum products for its entire requirement through its own production. The remaining amount is imported from other republics. The proportion of petroleum product shipments by rail transport in the total shipments of the Goskomnefteproduktov UkSSR [State Committee for the Supply of Petroleum Products UkSSR] amounts to 75.8 percent, the proportion by pipeline transport--12.7 percent, by motor transport--9.1 percent, and by water transport--2.4 percent. Pipeline transport received the greatest development during the years of the 11th 5-Year Plan. At the present time, 50 tank farms, located on the territory of 19 of the republic's oblasts, receive petroleum products by pipelines. The economic benefit from using petroleum product pipeline transport, as compared with delivery of the same amount by railroad, amounted to about 97 million rubles during the years of the 11th 5-Year Plan. Further development of the pipeline transport network is planned: Construction of the Lisichansk to Voroshilovgrad and Nadvornaya to Ivano-Frankovsk petroleum product pipelines is being completed. It is intended to continue constructing the Zhdanov to Melitopol petroleum product pipeline.

In the 12th 5-Year Plan, work will be continued to reduce inefficient shipments of petroleum products through construction of new petroleum product pipelines, branches from these, and distributing units at production sites, and through full development of existing and introduction of new capacities at NPZ's, transmission on the computer of the planning for assignment of consumers to suppliers, etc.

Reduction in the importing into the republic of automotive gasoline from the BSSR [Belorussian SSR] and heating fuel from the RSFSR and the Kazakh SSR is envisaged by the plan for 1986, through organizing their production at the Lisichansk NPZ.

As is apparent from the cited examples, the republic's transport system has definite reserves at its disposal for reducing transport costs on the basis of improving the distribution of productive forces, optimum assigning of suppliers to consumers, and efficient distributing of shipments by forms of transport. At the same time, complete solution of the entire complex of problems in rationalizing freight shipments demands certain changes in organizing the

management and planning of both product deliveries and freight shipments. Steps also are necessary, in our opinion, to put the system for taking account of inefficient shipments into order by establishing a common criterion for evaluating them.

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MOTOR VEHICLES, HIGHWAYS

IMPROVED, LARGER-CAPACITY BELORUSSIAN TRUCKS IN PRODUCTION

BelAZ Dump Trucks

Minsk NARODNOYE KHOZYAYSTVO BELORUSSII in Russian No 8, Aug 86 p 3

[Unsigned article: "Replenishments in the BelAZ Family"]

[Text] Serial production of 30-ton and 42-ton dump trucks of a new modification has been begun in the Belorussian Motor Vehicle Works. They differ from their predecessors with such cargo carrying capabilities in their more powerful motor; improved traction, dynamic and travel qualities; and greater durability. The cabs of the vehicles have become more comfortable; convenient control panels have been mounted and new plastic finishing has been used in them. The vehicles have been extremely standardized; thanks to this, their production was mastered without any additional capacities.

The course toward the constant modernization of products has become a decisive one in the labor of the factory workers. This year, the production of a new model of coal carrier has been begun here using the 110-ton dump truck, and the characteristics of the 180-tonners have been improved. The designers of the enterprise are now working at creating a 280-ton vehicle, and this means that a dump truck with a carrying-capacity of 320 tons will appear in future plans.

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MAZ Models

Minsk NARODNOYE KHOZYAYSTVO BELORUSSII in Russian No 8, Aug 86 p 40

[Article by A. Taranda: "Address -- the Construction Site"]

[Text] The Minsk Motor Vehicle Works workers have begun to produce vehicles designed for the laborers in the construction industry. An industrial batch of new MAZ-54331 dump trucks, which are twofold more productive than the former ones in transporting construction material and freight, has been assembled at the enterprise. The manufacturing of the long-term vehicles was mastered a half year ahead of schedule.

The vehicles have a carrying capacity of 14 tons and are equipped with modernized engines that insure high speed and maneuverability with reduced fuel consumption both on first class highways and at construction sites. In contrast with previous vehicles, they are universal ones. They are capable of being equipped with different trailer equipment. When necessary, it is not difficult to convert the dump truck into, for example, a panel carrier or a prime mover for transporting lumber. Additional units and assemblies are not needed for this. The high level of standardization permits the vehicle's profile to be easily changed.

G. A. Isayevich, the technical director of the BelavtoMAZ Production Association, has said: "During the current five-year plan, a radical updating of the vehicles produced in the enterprise is planned. The new family of MAZ-6422 truck tractors, which was recently mastered on the serial production line, will become the base model for them. This will help the production workers to concentrate their efforts in one direction, pay more attention to the quality of the vehicles, and effectively organize their manufacturing on existing equipment and areas. The operators are also winners: Servicing the MAZ will become simpler, and the problem of spare parts will be solved. During this five-year plan, we will convert vehicle-born machinery, timber carriers and other specialized equipment to this common technical base after the dump trucks.

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RAIL SYSTEMS

RAILWAYS MINISTRY ORDERS FASTER PACE OF AUTOMATION

Moscow GUDOK in Russian 13 Oct 86 p 2

[Unsigned article under the rubric "Official Department": "Eliminate the Lag"]

[Text] The Ministry of Railways Collegium has examined the question of incorporating an automated rail transport control system. It was noted that a significant lag in meeting the quotas set by the Ministry, particularly in the incorporation of the automated transportation process control system [ASOUP] the most important link in the ASUZhT [Automated Rail Transport Control System] complex, has been permitted by Main Administrations of Computer Technology and Railway Traffic and by the railroads.

This system is being incorporated most slowly on the Moscow, Southwestern, Donetsk, North Caucasus, Central Asian, Sverdlovsk, West Siberian and Krasnoyarsk Railroads. The system's technical base is being unsatisfactorily utilized on the Gorkiy, Lvov, Odessa, Dnepr (Pridneprovsk) and Southeastern Railroads.

The Main Administrations of Computer Technology and Railway Traffic and the railroad chiefs have not taken the necessary measures to insure the required reliability, completeness and timeliness of information transmission about trains and locomotives, which, in turn, does not permit this information to be used for management purposes.

The Main Administrations of Computer Technology and Capital Construction, and the chiefs of the West Siberian, Central Asian, Alma-Ata and South Urals Railroads are not providing for meeting capital construction plans on computer technology facilities.

Quality and efficiency continue to remain unsatisfactory in the operation of a number of automatic control systems at switching yards. Microprocessor equipment is being mastered slowly.

The Ministry of Railways has obligated itself to eliminate in the shortest possible time the lag permitted in developing and incorporating automated transportation process control systems on the railroads, to insure meeting set quotas for the development and efficient use of the system for incorporating the intensive procedures necessary for a significant increase in the level of operational work and successful completion of imposed shipment volumes.

RAIL SYSTEMS

MAJOR EXPANSION OF MOSCOW METRO CONSTRUCTION PLANNED

Moscow MOSKOVSKAYA PRAVDA in Russian 13 Oct 86 p 1

[Article by V. Krakhotina: "To Continue the Glorious Traditions"]

[Text] *To put into operation 45.2 kilometers of new subway line

*By incorporating a set of scientific and technical measures, new machinery intended for use in subway system construction, tunneling equipment and devices, small-scale mechanization and new materials, to reduce the relative importance of manual and heavy labor by 10 percent instead of the 9.8 percent according to the plan.

*Fulfill 76 percent of the work called for by the quota for the five-year plan using the team cost accounting method.

*Set up shower facilities with disease prevention rooms on all construction sites. Develop construction of a sports complex in the area of Korovinskoye Shosse. Increase the number of places in the dispensary by a factor of 2.

From the increased socialist obligations for the Moscow metrostroy collective for the 12th Five-Year Plan

To lay 360 kilometers of new lines for the Moscow subway system in the year 2000 is the task specified by the General Plan for Development of Moscow for subway builders. It is a grandiose long-range plan: the collective should already build 150 kilometers during the next 3 five-year plans. The Moscow subway builders are already making the first approach to this limit today. They should lay more than 45 kilometers of new lines during the 12th Five-Year Plan.

The underground lines will be laid from "Belyayev" in Otradnoye and further into Bibirevo. The length of the Kirov Line will be lengthened from "Preobrazhenskaya" to "Ulitsa Podbelskaya (Podbelskaya Street)." A new line will be

laid from Kursk Station to Lyublino, and the Filevskaya Line will be lengthened from "Molodyozhnaya (Youth)" to Krylatskoye. The program for the 12th Five-Year Plan for the builders of the capital subway system also calls for the construction of 4 electric depots on the new mainlines and expansion of 3 existing ones, as well as erecting additional vestibules and cutting escalator tunnels at "VDNKh," "Baumanskaya" and "Belorusskaya" stations, which are already in operation.

"The quotas are doubling, tripling, and that means the speed for construction of subway system facilities should also double, triple," it said in a report from Yu. A. Koshelev, Chief of Moscow Metrostroy, Hero of Socialist Labor, at a meeting of labor collectives devoted to adopting the socialist quotas for the 12th Five-Year Plan.

Today many organizational and technical measures for meeting the quotas which have been set are already worked out. First and foremost are the cadres. During the 12th Five-Year Plan, Moscow Metrostroy is being strengthened by 18,000 persons. Powerful equipment, modern machinery and devices and reliable tools will also make an appearance. But the new people and new equipment will not come to the aid of construction all at once and not now. And the work on reconstruction should begin today. During the next year, 1987, the amount of work for metro construction will increase by a factor of 1.6 in comparison with this year.

Therefore, within the collective they are giving decisive importance under these conditions to strengthening their own production base. This work will proceed in two directions, expansion of existing industrial enterprises and construction of new ones.

It is the task of the 3 Metrostroy plants and the Moscow Machine Shop to achieve a steady rate for production of ready-mix concrete, precast structures, cast iron pipe and lumber. But the builders themselves should help them. They have drawn out renovation of their workshops to an extent which is unjustifiable. SMU-6 and SMU-10 [Construction and Installation Administrations 6 & 10] are in debt to the plants.

"If we don't repair our existing plants in the very near future, in 1987, we will be cutting off the branch we are sitting on ourselves. That is how the matter stands," emphasized Yu. A. Koshelev.

Specialists from other ministries and departments and from subway construction associations from other cities will soon begin to arrive at Moscow Metrostroy, and the city, which will send its Young Communist League members for 'shock' construction to help the collective out. This will be a great help in having the Moscow subway builders satisfy the indicated plans. They are obliged to greet everyone as the dearest guests and establish conditions for them for regular work. The slogan "First--everything for the subcontractors, then for oneself" should become law for all of the subway builders.

An enormous role in increasing the speeds for construction of the new lines belongs to the scientific and technical measures, many of which have already

been worked out. In facilities being built during the 12th Five-Year Plan, the subway builders will make wider use of such advanced construction methods as the "wall in soil" and anchor fastenings for foundation pits. In cutting the run tunnels and stations, structures made from cast-in-place concrete will be utilized significantly more, and application of single-section designs, extrusion panels instead of brick and polymer materials for insulation work will increase by many times.

The help of the city and the country, the help of science and technology will facilitate the solution of the noted problem for the metro builders. But the builders are basing the main support upon themselves. They must still re-examine much within their production activity and in the organization of labor at the construction sites and in the stopes. This is particularly true in the engineering preparation of new sites, when needed items are not ordered or are not accurately ordered or when the subcontracting organizations have not been enlisted for this work--they have simply been forgotten. Today a new department has been set up at the Mosmetrostroy administration, a department of engineering preparation, and at the SMU [construction and installation administration], they have set up departments for production preparation, which are called upon to get rid of former practices.

Among the main methods for organization of efficient labor of the metro builders one finds the broad implementation of the brigade and then the collective contract. Cost accounting has not yet gained the necessary acknowledgement among metro builders. The results of an analysis show that the sphere of cost accounting is restricted, it is not correlated with the final results--turning over large structures for installation of equipment and finishing.

During the current five-year plan, cost accounting should become the primary nature of all production activity for the Mosmetrostroy collectives--the question is posed thus. In a little more than a year, beginning with today, until the end of 1987, the Moscow subway builders should travel a route passing from the general brigade contract to the collective contract, with a precise accounting for the entire year. There are currently 600 active brigades in Moscow subway construction. The average size of the majority of them is 11 persons; only 30 of the collectives number 40-50 persons. This is too few. The task is posed thus: to set up within each SMU large, comprehensive brigades, each of which would include builders of all specialties, with the KTU to become the main economic lever for its activities. There are already today brigades within the Mosmetrostroy collective numbering 60-70 persons which contain all the professions for building the subway system. As an example, the brigade of G. Khodakovskiy in SMU-11; it is these builders who are erecting the new "Konkovo" Station on the Kaluga Radius at a shock work pace.

It was noted in the report that it is precisely by using such brigades that we should build the stations and drive the tunnels during the 12th Five-Year Plan.

Beginning 1 January 1987, 2 SMU in Moscow Metrostroy will convert to the collective contract method, and during all of next year, all labor collectives should prepare themselves for operation using the cost accounting method. To do this, it will be necessary to reexamine radically the operation of the dispatcher service and the administration of production and technological outfitting and transport since these are the weakest links.

It still remains for the entire Mosmetrostroy collective to drive 45 kilometers [of tunnels], expand the production base and improve work methods. Therefore, concern for the person is being advanced to the forefront in the plans for the 12th Five-Year Plan.

In all of its more than 50 year history, the Moscow subway builders have never solved such an enormous problem: 45 kilometers in 5 years. Today they are equating it with the feat of labor performed at the dawn of domestic subway system construction by their senior comrades who drove the first line of the underground in the 1930s. It is a matter of honor for the young contemporaries to continue the glorious traditions.

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RAIL SYSTEMS

PLANNING PROGRESSES FOR SECOND GORKIY METRO LINE

Moscow GUDOK in Russian 25 Sep 86 p 4

[Article by A. Yudanov, Gorkiy: "For Four Regions"]

[Text] First start-up sector of the subway system in Gorkiy, linking the railroad terminal with the auto plant, went into operation about a year ago. Two more stations "Avtoazvodskaya (Auto Plant)" and "Komsomolskaya (Young Communist)," will be added to the 6 already in operation during the next year, and in 1989, "Kirovskaya (Kirov)" and "Zhdanovskaya (Zhdanov)" will be added. In this way, construction of the first phase of the metro will be completed. But "Gorkov-metroproyekt," in collaboration with other organizations, is working up planning estimates for the second phase, which has been called the Sormovsko-Nizhegorodskaya Line. It will link 4 major regions of the city.

The second phase will be built under complex geological engineering and hydro-geological conditions. As is known, Gorkiy is situated on the banks of 2 large rivers, the Volga and the Oka, with great drops of up to 100 meters between the highland side and the side beyond the river. "Gidrotransmost" Institute has developed a one-of-a-kind subway system bridge without analogues in the world, which will link 2 parts of the city, cross the Oka and come out in the region of the old Kazan rail terminal. Then the tunnel will pass at great depth through the rocky high bank of the Oka and come out on Gorkiy Square. The designers and builders anticipate utilizing the best achievements of Soviet and world metro construction, and the strongest, most economical materials and designs.

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MARITIME AND RIVER FLEETS

USSR, FRG DISCUSS INLAND WATERWAY COOPERATION

Moscow VODNYI TRANSPORT in Russian 30 Oct 86 p 1

[Article by VODNYI TRANSPORT correspondent]

[Text] The FRG Minister of Transport V. Dollinger held a press conference for Soviet and foreign journalists at the press center of the USSR Ministry of Internal Affairs.

The minister evaluated highly the results of negotiations with the directors of Soviet transport departments. He emphasized the fact that the transport relations arranged will serve world policy.

A Soviet-West German agreement on navigation along inland waterways was sealed in the course of the visit to Moscow. It is particularly significant because new perspectives are opened up for this type of communications. At the beginning of the 1990's a Main-Danube canal will be constructed, which will open a through waterway between the Black and North seas. Broad potentials will be opened up for transport links between the FRG and its adjacent countries and states of eastern and southeastern Europe.

It was noted at the press conference that the idea of this waterway has been on people's minds for some time already. Finally the project, which has great all-European significance, has passed into the realm of the practical. Minister V. Dollinger expressed the hope that not only freight, but also passenger traffic will be opened along the new waterway.

Minister V. Dollinger announced that negotiations will soon be continued and agreements signed between the two countries with respect to marine navigation. The VODNYI TRANSPORT correspondent asked the question: "Despite the fact that the negotiations have not been completed, can it be considered that relations between the FRG and the USSR in the sphere of shipping trade have gained new, positive impetus?" "I have no doubt of it," V. Dollinger answered.

The minister said with confidence that the relations between our countries in the sphere of all types of transport will develop successfully.

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MARITIME AND RIVER FLEETS

FOURTH NUCLEAR-POWERED ICEBREAKER LAUNCHED

Moscow VODNYY TRANSPORT in Russian 1 Nov 86 p 1

[Article by I. Belyayeva and V. Martyshin, Leningrad: "The Fourth Hercules"]

[Excerpts] A fourth nuclear-powered icebreaker of the Arktika type was launched yesterday in Leningrad at the Baltic Shipbuilding Yard imeni Sergo Ordzhonikidze. A new, fifth nuclear-powered vessel, the Oktyabrskaya Revolyutsiya, was placed in the building slip that was freed.

The launching of a new ship is always a great event and occasion for celebration. The launching of this ship, a nuclear-powered icebreaker, is an event noteworthy for the entire country. This is because there are so far only three such giants in operation on the sea, and because putting this ship into operation will increase the capacities of our maritime fleet and our motherland will consequently become more powerful.

... Here is the slip. The truly herculean form of the ship, powerful, stocky, compact and majestic, appears before our eyes. In its exterior contour it is an exact duplicate of its older sister ship--the nuclear-powered icebreaker Rossiya, not differing greatly from the first offspring of the series--the Siberiya.

"There are practically no essential differences between this icebreaker and the Rossiya," explains O. Pashnin, director of the special group for technical supervision of the design and construction of the icebreaker fleet of the Murmansk Maritime Shipping Company, hero of Socialist Labor, "except that bow and stern bilges were installed on the Rossiya. Experience in sailing with ice has shown that in some cases they simply hinder the operation. This is the question, though: in every case? The upcoming tests next March will show this. It was decided to put only stern bilges on this icebreaker. Sea water was used to cool the generators on all the preceding nuclear-powered icebreakers, and this led to erosion of the water-cooling system and its frequent clogging. A fresh-water cooling system will be installed here. Certain changes are also planned in the navigation equipment."

The time for launching is drawing near. A group of divers inspects the underwater part of the slip. The ship's riggers check, as they have done how many times already, the rigging and equipment which will help to check the speed of the vessel, accelerated in the water. The propellers glisten with steel. Those who attended the launchings of the first icebreakers draw attention to the fact that on this vessel, in contrast to the others, propeller shrouds have been installed to protect the screws from contact with the ice, and thus also increase the reliability of their operation. The metal is hidden from view, and there are some other innovations. Here is just one: for the first time on ice-class ships, the left propeller is set on the shaft without a key, for extrusion.

"This propeller installation was very labor-intensive for us," says the leader of the fitting-installing brigade V. Ladonenko. "Practical experience shows that it has proven itself. The fact that the keyless system strengthens the structure of the shaft and reduces the shift of the propeller is also clear from theoretical calculations."

The brigade was occupied at the slip with, it can be said, the most responsible work. Along with installing the propellers--suspending the after-piece of the rudder, press-fitting the line of the shaft--it had to deal with assemblies weighing up to 50 tons and calculate the allowances in their installation to tenths of a millimeter. Having finished this work ahead of schedule, the brigade began to work on construction already underway, that is, to perform work which was planned for the post-launching period.

The hull of the icebreaker gleams with black paint. In a few minutes the lower part of it will be concealed under the water, and only during the first dry-docking will it be possible to fully reexamine it and paint it. This is usually done after the vessel has been in operation a year or two. After this period, as the result of electrochemical corrosion, 2-3 millimeter blisters are formed on the ship's hull.

At the same time, the ship has lost up to 10 tons of metal. This reduces the navigating and ice qualities. Special types of paints have been and continue to be the only protection, but even they, of the highest grades, have been adequate for only a year to a year and a half. That is why scientists have decided to install on the new ship a new protective device widely used on ships that are not ice-class vessels. Anode units will be mounted along the sides inside the hull, and their task will be to neutralize the exterior electric field.

The supervisors of the enterprise, headed by director V. Shershnevyy, ascend to the launching platform.

The gala ceremony of launching the nuclear-powered icebreaker begins. The directors and leading shipworkers give speeches. The parting words of blessing are spoken--"krestnaya mat".

And now the long-awaited command is heard:

"Cut the holding lines!"

The ship gives a shudder. To the sound of an orchestra and shouts of "Hoorah!" it slowly begins to move down along the slip and slides faster and faster, the hull raising the tremendous swells of the Neva waves. The anchor is dropped. The tugboats take up the ship. The speed slackens. Stop! The ship is on the Neva....

Not a great deal of time will pass before the nuclear-powered giant, for its merits, will take a place among its sister ships in the icy expanse of the Arctic regions.

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MARITIME AND RIVER FLEETS

UKSSR RIVER WORKERS PREPARE FOR WINTER; CHERNOBYL FACTOR

Moscow VODNYI TRANSPORT in Russian 15 Nov 86 p 1

[Interview with First Deputy Chief of Glavrechflot [Main Administration for the River Fleet] for the UkSSR Council of Ministers P. Podlesnyy by V. Gonta, Kiev: "Under Special Conditions: Ukrainian River Workers Prepare for Winter Work"; date not given]

[text] Why special conditions? Indeed, if only because for the first time in the entire history of the UkSSR Glavrechflot existence, the Dnieper and Pripyat will live a stepped-up work-life even when there is ice, having been locked, as in previous years, by the impassable armor of the river, and will suspend navigation until spring. The reason? Just one--eliminating the consequences of the accident at the Chernobyl nuclear reactor.

Today, as our readers know from newspaper reports and from television and radio communications, the radiation situation close to the site of the accident has stabilized, the reactor is essentially contained, but the work, of course, continues. At the front line of the struggle are the river workers of the republic, who are delivering the necessary freight to Chernobyl, and are working at a stepped-up rate, selflessly. Our conversation with P. Podlesnyy, first deputy chief of Glavrechflot for the UkSSR Council of Ministers, began with the question as to how preparation for the winter is progressing in this year that is difficult for everyone.

"Indeed, the accident caused a serious adjustment in our plans for preparing for the winter. Suffice to say, in the fourth quarter the limits for electric energy consumption on the whole for Glavrechflot were lowered. A task of primary importance for all the enterprises in the sector is to prepare for the reliable and uninterrupted work of the entire energy industry. Great attention is being paid to economy and thrift. Work on repairing the energy services is now mainly completed. There are cases of uncompleted work, however: instructions of Glavrechflot with respect to the equipment of shore systems and panelboards for the possible use of diesel-generators of motorships for certain projects, floating cranes, floating workshops and other floating devices have not

been fulfilled everywhere. We are now giving priority to working on these problems.

[Question] How will the work of the fleet and the ports be arranged under winter navigation conditions? In conversations with river transport workers I have sometimes chanced to hear skeptical remarks: they say, are these burdens going to be shouldered?

[Answer] There can be no two opinions here--absolutely, they will be shouldered. We understand that success in the work of the fleet and the ports will depend on high-quality and prompt preparation for winter navigation. This is especially true of transporting cargoes to Zelenyy Mys. I can say that today the cargo volumes are being defined more accurately. The volumes of construction route work constitute about 4 million rubles.

What do we have in mind? Creating aquatoriums and approaches, equipment for the berths and construction of channel beacons and luminous cigar-buoys. The Kiev Ship Building and Ship Repair Yard is readying, for work under winter conditions, two motorships of 559M design, the motorship Nakhimov with an ice-breaking attachment and the steamships Batunin and Dudnik, the shipbuilders from Zaporozhe--13 motorships, the Dnepropetrovsk repairmen--the motorship Makarov and the Kiev River Port--5 floating cranes, a small amount of mechanization and other projects.

While preparing for winter shipments to Chernobyl, however, we are not forgetting about the usual winter work. It is a question of local deliveries to the Lower Dnepr. We have serious grievances about the repair of the portal cranes at the ports of Cherkassy, Kremenchug, Kherson and Nikolayev and the grab crane services for processing scrap metal at Nikolayev. We are paying particular attention to preparation for unloading railroad cars with frozen cargoes.

[Question] There is still a great deal of work, say the "eager ones" at Zelenyy Mys where, as we know, in a special "settlement on the water", power engineers, construction workers and river transport workers, equipped to eliminate accidents, are resting! What I have in mind is whether the motorships will have a normal temperature in which people can relax completely, and how problems of food and cultural services will be solved, that is, the set of problems that have been entrusted to Glavrechflot with respect to providing for the needs of the people working there, at Pripyat?

[Answer] Everything that has been entrusted to Glavrechflot by the government commission has so far been precisely and strictly fulfilled. I think that this will continue to be the case. The main factor for us now in this direction is to complete work on thermoinsulating the motorships where the people will live, to solve the problems with the electrical supply, to prepare the winter dining hall and floating store and to obtain the construction of the food warehouse from the USSR Ministry of Power and Electrification. Work must also be completed in the near future on constructing a pump house, a sewage system over 3 1/2 kilometers long, an underwater discharge collector (two lines, 5.5 kilometers each) and about 500,000 cubic meters of dredging work must be done--these are tasks of paramount importance.

[Question] There are rumors going around the VODNYI TRANSPORT correspondents' center which indicate that the preparations for winter are not being made properly everywhere. In particular, there is a great deal of censure of the construction workers.

[Answer] I have recently returned from Cherkassy, where, along with other questions, I was interested in the preparation for work under winter conditions. This is where practically all the problems were considered and, most important, completely solved. In reality, however, there are also omissions. Unfortunately, preparation of the available departmental housing is lagging behind greatly. At the Port of Dnepropetrovsk, Ukrrechstroy has not modernized the heating center, and at Zaporozhe--the heating lines to the housing settlement for the port and the pump station have not been repaired. There are shortcomings in the equipment for the everyday facilities. We are making the guilty parties strictly responsible, and by winter all the unfinished work will be set right. The work on heating the shops, warehouses and everyday facilities is now practically completed.

[Question] Quite recently, as I know, an extremely important state task was entrusted to Glavrechflot: one more special work settlement on the lines of Zelenyy Mys-Chernigov environs will be constructed through the efforts of the river transport workers.

[Answer] Yes, they have committed us to creating this settlement, in which construction workers engaged in building housing for the power engineering workers at Pripyat could live under normal conditions. We are sending six motorships to Desna. The work in store is tremendous: we have to remove over 2 million cubic meters of the tons of soil, build passenger berths, provide water and electrical power and install a sewage system. All this must be done in an extremely short time. Thus, in reality, we are preparing for work under winter conditions, but not as we always have--each day brings corrections. I am certain, however, that the collective of river transport workers of the Ukraine, just as before, will fulfill all the assignments.

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MARITIME AND RIVER FLEETS

PLANS FOR DEVELOPING NAVIGATION ON SMALLER RIVERS

Ukrainian River Status

Moscow RECHNOY TRANSPORT in Russian No 9, Sep 86 p 12

[Contribution by I. Kuz, chief of the Vinnitskiy Rayon River Transport Administration, to article under the "Economics and Operation of the Fleet and Ports" rubric: "Large Problems of Small Rivers"]

[Text] The introduction of new equipment and advanced technology is an important element in accelerating scientific-technical progress. About 10 percent of the passengers and 5.4 percent of the freight in the total volume achieved by ships of the Glavrechflot UkSSR [Main Administration of the River Fleet UkSSR] are carried on the Ukraine's small rivers. Trends toward the small rivers' further development have emerged. Construction of the composite hydraulic-engineering system [gidrouzel] on the Dniester River in the vicinity of Novodnistrovsk has prompted this.

Fleet operating conditions on the small rivers sharply differ from the navigating conditions on a main line. It is not just the shallow water and the presence of shoals, but the underdevelopment of the navigable routes as well. And such rivers as the Dniester and Yuzhnyy Bug [Southern Bug] cannot be compared with the Ukraine's other rivers. The length of these waterways' exploitable sectors is from 30 to 50 kilometers on the average, and the sectors have no access to the rivers' mouths and no connection with other basins. Herein lies the main reason for the slow development of a material-technical base and freight carriages on these rivers.

The need for our own shipbuilding base arose in connection with the difficulties of moving cargo-transport vessels and floating-cargo-transfer machinery to isolated sectors of the Yuzhnyy Bug and Dniester Rivers. Thus, the Dniester Regional Administration is completing construction at Zaleshchiki, according to the plan for transport development of the Dniester Reservoir, of modern repair and machinery-fabrication [remontno-mekhanicheskkiye] shops with a slipway. Here it is planned to develop the construction of a non-self-propelled [dumb-barge] fleet and scraper-type, floating cargo reloaders [skrepernyye plavperegruzhateli].

This year, on the eve of their occupational holiday--Maritime and River Fleet Workers' Day--the Vinnitskiy Rayon Administration's river transport workers on the Mogilev-Podolskiy Sector accepted into operation from the builders a new river passenger terminal. It has permitted improving the passenger-service standard, increasing the kinds of paid services to the population, developing additional carriage volumes through the opening of a new line, and increasing the passenger fleet's profitability.

During the 11th 5-Year Plan, the Vinnitskiy Rayon River Transport Administration received new cargo-transfer machinery, non-self-propelled barges of increased freight capacity, and towing launches with improved technical and economic characteristics. The active part of its fixed capital was renewed by 60.4 percent. The technical re-equipment of the rayon administration's plant will permit increasing the volumes of freight carriages by 15 percent during the next 2 to 3 years. Operation of the new equipment in 1985 already has made possible a 5.2-percent saving of diesel fuel.

When renewing fixed capital, such a factor of no small importance as cost-effectiveness [samookupayemost] should be considered. This may be confirmed in the following example. The unloading of mineral building materials from non-self-propelled barges is accomplished at the present time by excavators equipped with clamshell grab buckets [ekskavatory, oborudovannyye greyfernymi kovshami]. Using such equipment, it is mechanically impossible to scrape the vessels' decks clean of cargo remnants. In a barge of 200-metric-ton cargo capacity, there remain, on the average, 12 metric tons of so-called "dead residue." Each barge is unloaded 2.7 times in a 24-hour day. During a shipping season, it fails to deliver 7,200 metric tons of cargo, and the collective receives 9,000 rubles of revenue less than it should. There is only one way out--introducing scraper-type reloaders [skrepernyye peregruzhateli], the cost of which would be covered in two shipping seasons. Use of this equipment will preclude damage to the decks of the non-self-propelled vessels during processing. The series production of scraper-type reloaders, with productivity up to 200 metric tons per hour, must be organized more rapidly.

Further increase in the transport fleet's work efficiency is possible through a fundamental change in reloading operations. The obsolete 85A grab dredges must be replaced with bucket-ladder dredges having a productivity up to 100 cubic meters per hour and more.

Considering the great speeds of Dniester River currents, the gravel and sand mixture (GPS) is enriched by the water flow's removal of suspended particles, in the form of fine sand and silt, during the filling of a bucket-ladder dredge's buckets. The GPS extracted in such a way can be used, not only for road construction and repair, but also for concrete work, as well as the manufacture of reinforced concrete articles. Therefore, the GPS extracted by grab dredges is inferior in mixture quality to that extracted from river beds by bucket-ladder dredge. Moreover, the work in operating the pontoon-mounted excavators and manual winches of the grab dredges is unsafe.

Introducing scraper-type reloaders and bucket-ladder dredges on the Ukraine's small rivers will make it possible to increase the volumes of freight carriages during the 12th 5-Year Plan, and better observe the nature-protection agencies' requirements.

The road-construction organizations' requirement for GPS shows that the Vinnitskiy Rayon Administration alone needs to increase this freight's carriage volumes by a factor of 1.5. Prospected GPS reserves in the Dniester River Reservoir's vicinity will permit meeting the need for it into the long-term future.

Along with fundamental technical re-equipping of the cargo-transfer technology and cargo transport fleet on the small rivers, with reorientation upon intensive management methods, the management structure also should be improved. And it has a disjointed character in a number of cases.

Thus, the Ataki Landing, belonging to Moldavia's Glavrechflot [Main Administration of the River Fleet] is located on the Dniester River abreast the Mogilev-Podolskiy Landing of the Ukraine's Vinnitskiy Rayon Administration. The goals and tasks of these landings are identical--providing for carriages of mineral building materials and passengers. Moreover, the GPS extraction from the Dniester River's bed and the passenger fleet's operation are effected in one and the same sector. However, investigations of the technological processes and GPS deposits, development of technical documentation, and preparation of recommendations for improving fleet utilization proceed by different channels, inasmuch as these matters are decided separately, from the standpoints of the Ukraine's and Moldavia's Main Administrations. We think it advisable to consolidate the efforts and expenditures here. By the same token, the presence, on the two opposing river banks, of rather small landings performing identical work also is inadvisable. Consolidating these enterprises will permit reducing the number of workers while maintaining the carriage volumes.

In recent years, great attention has been devoted to improving passenger service. At the present time, an acute need has arisen to build a river passenger terminal in Vinnitsa for solving this problem. It also is necessary to augment the passenger fleet, the main nucleus of which is shallow-draft Moskvich-class launches that have been in operation for a quarter of a century and longer. Because of the lack of ship-lifting equipment, the technical condition of these vessels does not meet present-day requirements. The operation of Zarya-class propeller-driven hydroplaning [glissiruyushchiye] vessels is prohibited on small rivers during the fish spawning season, and this leads to a reduction in passenger carriages.

Therefore, it is necessary to build new passenger vessels for the Ukraine's small rivers, having up to 150-person capacity, and with a draft no deeper than 0.6 meter, based on the design R-51E passenger motor ship. The two Zarya-class passenger launches that are in operation on the Ladyzhin Reservoir and Dniester River expend as much fuel as seven Moskvich-class passenger vessels.

It is necessary to take these two launches out of operation, having replaced them with water-displacing vessels of 110-170-kilowatt power. Through use of the fuel savings, it will be possible to open a new passenger line with carriages of up to 60,000 passengers during a shipping season, and provide for the carriage of 150,000 metric tons of mineral building materials.

For environmental protection purposes, the Tiraspol Pedagogical Institute is developing recommendations, at the Vinnitskiy Rayon Administration's request, to prevent negative effects of GPS extraction on the fish reserves of the Dniester River's Mogilev-Podolskiy sector.

The Ukraine's Vinnitskiy Rayon Administration collective has developed a set of measures for further developing freight and passenger carriages on small rivers, which will permit more fully satisfying the enterprises' and the population's requirements for carriages by river transport.

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RSFSR River Status

Moscow RECHNOY TRANSPORT in Russian No 9, Sep 86 pp 13-14

[Contribution by Engineer A. Barakin to article under the "Economics and Operation of the Fleet and Ports" rubric: "Large Problems of Small Rivers"]

[Text] Carriages on waterways assigned to the small-rivers category have a special place in serving the national economy. Freight is delivered on these to the remotest of regions, to which carriages by other forms of transport are difficult and cost several times as much. This applies particularly to regions in the Far North, Siberia, and the Far East.

Vessels of the Ministry of the River Fleet RSFSR are operated on more than 270 rivers, lakes, and reservoirs having an overall length of 40,300 kilometers. Of these, guaranteed ship-passage dimensions are established on 116 of the bodies of water having a length of 15,300 kilometers, and the rest are used only in the spring high-water period.

By comparison with the overall carriages, freight carriages on the small rivers are developing at surpassing rates. During the last three 5-year plans, with increase by a factor of 1.7 in the volume of carriages throughout the Ministry of the River Fleet as a whole, carriages on the small rivers grew by a factor of 2.46. They received especially great development during the 11th 5-Year Plan. In 1985, their volume had increased by 48.7 percent as compared with 1980. During the years of the 11th 5-Year Plan, 223.9 million metric tons of national economy freight were carried in all, including 8 million metric tons of petroleum products, 50 million metric tons of timber in rafts, and 165.9 million metric tons of dry cargo. The 5-year plan was fulfilled by 109.2 percent. In comparison with the 10th 5-Year Plan, the volume of these carriages had increased by 27.9 percent, whereas it had increased by 15.2 percent for the industry as a whole.

During the 11th 5-Year Plan, carriages on the small rivers received the greatest development in the Volgotanker (24 percent), Volga United (39 percent), Moscow (44 percent), Volga-Don (92 percent), Pechora (19 percent), Ob-Irtysh United (18 percent), and West Siberian (87 percent) River Shipping Companies. Their further surpassing development is foreseen in the 12th 5-Year Plan. For the ministry as a whole, they must be increased by 18.6 percent, with growth by 9.1 percent in the overall volume of carriages. Their main increase, by 27.3 percent, is planned in the river shipping companies of the eastern basins, including an increase by 29.4 percent in the Ob-Irtysh United and West Siberian. Large growth (41.7 percent) in these carriages is envisaged in the Northern River Shipping Company.

Increasing the freight carriages' volume, along with improving their organization and utilization of the available fleet, requires strengthening of the material-technical base.

Shipping companies effect freight delivery on the rapidly shallowing rivers used for shipping during the spring high-water period in large-tonnage vessels as a rule. The essential conditions for safe navigation are created here during the high-water period. Such rivers are used for carriages for a short period (from 10 to 30 days), and are characterized by rapid rise and fall of the water levels. Besides this, about 30 percent of the small rivers are used for stream-driven floating of timber as loose logs, which also limits the period of fleet operation.

Growth of freight carriages on the small rivers with guaranteed waterway dimensions requires appropriate augmentation of the small-tonnage fleet. Unfortunately, its size has been reduced because of unserviceability during recent years. During the 10th 5-Year Plan, the balance of the small-tonnage fleet was reduced by 4.4 percent, and during the 11th--by 10.3 percent. It also must be noted that many small-tonnage vessels, especially the self-propelled ones, are overage and obsolete, and do not meet the health requirements. This hinders their full manning with crews. The amortized service period has run out for 34.4 percent of the vessels' overall number.

Reducing the number of small-tonnage vessels leads to the shipping companies' being compelled to effect carriages on rivers with guaranteed depths of 0.6 to 1.25 meters in large-tonnage vessels, and incompletely utilizing their cargo capacity. During operation under the constricted conditions, the fleet receives damages, and is placed under lengthy repair in the shipping season.

At the present time, a limited number of pusher tugs of design R-96B with 110-kilowatt power and 0.67-meter draft, design R-96A with 220-kilowatt power and 0.7-meter draft, and design R-162 with 330-kilowatt power and 0.8-meter draft is being built. Vessel designs R-96B and R-96A were obsolete 15 years ago, and do not meet modern requirements. The construction of vessels of new types, instead of them, was envisaged in the schedule of vessel types established in 1983. The Scientific and Technical Administration and the TsTKB [Central Engineering and Design Bureau] should accelerate development of the working

drawings for pusher tugs of design 81340 (power 110 kilowatts, draft 0.65 meter) and design 81350 (power 220 kilowatts, draft 0.7 meter) in order to commence their construction in 1987 and 1988. It is also necessary this year to develop the technical documentation for constructing the prototype shallow-draft stern-wheel [single paddle-wheel] pusher tug with 110-kilowatt power and 0.4- to 0.5-meter draft according to the technical proposal of the TsTKB Novosibirsk Branch approved by the Scientific and Technical Council.

The construction of pusher tugs according to these three designs, as well as R-162, with a draft of 0.5 to 0.8 meter, will permit freight carrying along all of the small rivers having guaranteed waterway dimensions. These vessels will replace all of the pusher tugs of old construction that are in operation. Living and working conditions for the crews are substantially improved on them.

The situation in cargo-fleet construction also is unsatisfactory. The small-tonnage dry-cargo barges of designs 944 (cargo capacity 300 metric tons), 183BM (200 metric tons), R-127 (120 metric tons), and R-146 (135 metric tons), and the R-63A oil barge (200 metric tons) being built conform to operating conditions on the small rivers in their characteristics. However, the shipping companies' enterprises [plants] are building a limited number of the vessels, which will not meet the requirements for carriages.

It is necessary to accelerate development of the technical design and working drawings, as well as construction of non-self-propelled dry-cargo and oil-carrying vessels of cargo capacities 100, 200, 300, 400, and 500 metric tons in standard modular sections, on the basis of the TsTKB's proposals approved by the ministry's Scientific and Technical Council.

For carriages of freight requiring covered storage, developing the design of a cargo motor ship having 260- to 300-metric-ton cargo capacity, and with an adaptation for pushing storage barges [barzh-ploshchadki] of 200-metric-ton cargo capacity, should be expedited. Series construction of the design R-143 flexing barge train [izgibayushchiysya sostav--a flexible, integrated, articulated tow flexed laterally for rounding tight curves, and including the pushing vessel] with 440-kilowatt power and 580-metric-ton cargo capacity, which showed good technical and economic characteristics during testing of the prototype, is being delayed unduly.

These vessels will permit more fully satisfying the requirements for freight carriages on all waterways assigned to the small-rivers category having guaranteed waterway dimensions.

Considering the fact that the Ministry of the River Fleet's industrial plants, because of their limited production capacities, are not in a position to provide fully for constructing the small-tonnage vessels, it is necessary to enlist the USSR Ministry of the Shipbuilding Industry's plants for solving this important problem.

On the majority of small rivers, and especially on those temporarily used for shipping during the spring high-water period, the shipping companies, freight shippers, and freight receivers do not have well-equipped, mechanized docks [wharfs, quays, or piers] for handling the fleet in most cases. Loading and unloading are accomplished at an unequipped bank by means of tracked, truck-mounted, and floating cranes and the cranes installed on cargo motor vessels, or by hand. The shipping companies tow floating cranes to the unloading site, along with the cargo vessels, for purposes of expediting the vessels' processing. Diverting the cranes to the small rivers, when there is a shortage of them, negatively affects ship processing in their ports of registry. Individual freight receivers and freight shippers, having their own docks, often maintain these in unsatisfactory condition, and do not prepare them for the arrival of vessels on time.

The shortage of well-equipped docks and crane equipment leads to lengthy, above-plan standings of vessels undergoing processing, which lowers the fleet's carrying capacity. Further increase in freight delivery to the small rivers demands of the shipping companies' managers the taking of appropriate steps to expedite construction of both their own mechanized docks and the freight shippers' and freight receivers' docks, as well as the enlarging of the floating-crane fleet.

During the years of the 11th 5-Year Plan, navigating conditions on the small rivers were improved substantially by the basin administrations for waterways (channels). Regular shipping was organized on the Agan, Vakh, Bolshoy Salym, Pur, Taz, Severnaya Sosva [North Sosva], Kazym, and Vasyugan Rivers for a distance of 1,743 kilometers. The ministry collegium's measures to increase guaranteed depths were carried out in 29 small rivers and sectors (3,166 kilometers) and, in addition, guaranteed channel dimensions were established in 8 rivers and sectors (437 kilometers), and 24 rivers and sectors (786 kilometers) were newly developed for carriages.

At the same time, there also are serious deficiencies. The Minrechflot [Ministry of the River Fleet] collegium's decision to increase guaranteed depths in the Pur (Urengoy-Tarkasale Sector) and Vasyugan (Katylga-Sredniy Vasyugan Sector) Rivers was not implemented, and neither was the assignment to increase the curve radii on the Pur, Taz, Vasyugan, and Berd Rivers. Because of the shortage of small dredging rigs and the discontinuing of their construction, the basin waterway administrations did not provide guaranteed channel dimensions in 18 sectors of small rivers (745 kilometers), and, in 7 sectors (336 kilometers), the previously guaranteed depths declined by 10 centimeters. Violations in maintaining the river-bank and floating-object situation, and belated information to vessels' crews about actual ship-passage dimensions also were tolerated.

The surpassing freight-carriage development rates on small rivers in the 12th 5-Year Plan demand of waterway workers the carrying out of necessary measures to improve the floating-object and river-bank situation, and to expand the dredging and straightening work on such rivers, first of all, as the Vetluga, Sura, Chapayevka, Samara, Moksha, Tsna, Katun, Vasyugan, Vakh, Agan, Pur, and Taz.

In working out general outlines of the shipping companies' development for the 12th 5-Year Plan and to the year 2000, insufficient attention was devoted to the small rivers' carriages and material-technical base by the Giprorrechtrans [State Institute for Planning in River Transport] and the Leningiprorrechtrans [Leningrad State Institute for Planning in River Transport]. This oversight should be corrected, and a high-quality future development plan should be worked out for the small rivers.

The List of Waterways Considered Small Rivers, officially adopted back in 1972, also needs appropriate correction. A number of rivers are listed in it, which are not being used for carriages at the present time because of the lack of a need to do so or unsuitability for navigation without the accomplishment of major waterway work with substantial capital investments.

In the effective list, rivers and river sectors, having waterway characteristics significantly differing from one another, are lumped together, which precludes a common approach to fleet construction and rate setting for carriages.

Comprehensive research into economic substantiation of the basic principles of assigning waterways to the small-rivers category, classification of the small rivers, and the demands upon small cargo transport vessels for organizing carriages was done by the NIIVT [Scientific Research Institute for Water Transport] on an assignment from the Main Administration for Carriages and Fleet Operation and the Main Administration for Waterways and Hydraulic Works. The institute's work was approved by the production equipment [proizvodstvenno-tekhnicheskii] council of the Main Administration for Carriages and Fleet Operation, with the participation of representatives of the ministry's interested main administrations and administrations. However, it did not find a practical solution, and the effective list of small rivers has not been revised to date.

In connection with the ministry enterprises' shift, in 1986, to new management conditions for full satisfaction of the national economy's growing requirements for carriages, it is necessary to solve all of the inevitable problems in time, as well as to put the effective list of small rivers in order, and set the appropriate tariffs [rates] for carriages, taking river transport's increased expenses into account.

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MARITIME AND RIVER FLEETS

ENGINEER ON SHIP REPAIR, OPERATIONAL PROBLEMS IN FAR NORTH

Moscow VODNYI TRANSPORT in Russian 27 Sep 86 p 1

[Article by L. Ivanchenko, chief engineer, Northeast Maritime Fleet Administration, under the rubric "To Arctic Freight--Timely Delivery": "An Important Landmark"]

[Text] It is intended to increase shipments by maritime routes to points on the Anabar, Yana, Indigirka, Kolyma, and Khatanga Rivers substantially for the present 5-year plan. SVUMF [Northeast Maritime Fleet Administration] ships of the Kishinev, Sovetskaya Yakutiya, and Vasilii Shukshin classes and tankers of the Inzhener Pustoshkin class are performing their mission fully--they can deliver cargo to shallow sea areas and river mouths. Today they are providing freight flows, without transshipment, from Tiksi and Pevek to all points of the Arctic rivers for regions of the Far North.

Having good seagoing qualities, these ships make the difficult passages from the Arctic to the seas of the Far East, and are used in freight carriages there during the period between shipping seasons. Unfortunately, these ships have weak hull structures. Even when following an icebreaker, they receive significant damage to their hull structures and propeller and rudder groups. We carried out the reinforcing of their hulls and extreme bows with the forces of our own ship-repair shops, and replacement of the bronze propellers with steel ones was accomplished. However, these measures have turned out to be insufficiently effective, especially during the last 2 years, when the shipping season in the Eastern Arctic was extended by almost a month, and the fleet was compelled to operate in more difficult ice conditions.

The scheme, instituted by the MMF [Ministry of the Maritime Fleet], of placing the fleet in the three ports of Tiksi, Zelenyy Mys, and Pevek for the winter laying up, and the lack of repair yards [bazy] in the last two, has put the technical service and the ship repairmen in difficult circumstances. This is felt especially in doing the dry-dock work that is based on chopping out the ice around the ships [vymorozka sudov].

Forming the ice dry-docking holes is a lengthy, laborious process, requiring great material, financial, and labor expenditures. The holes are subject to the influence of weather conditions, and do not provide for guaranteed execution of planned repairs. This applies, first of all, to the ports of Pevek

and Zelenyy Mys, where doing such work is practically impossible. Chopping out the ice [vymorozka] lasts from November through April, and requires up to 120 specialists of various types. Expenditures for preparing and maintaining the holes amount to 300,000-400,000 rubles annually.

Moreover, the working conditions are most difficult for those chopping out the ice. Invariably, the work is carried on in the open air, during the polar night, in a temperature 30 to 40 degrees below freezing [-30 to -40 degrees Celsius] and winds up to 30 meters per second [about 58 knots]. And, chopping out the ice actually is done by hand. Attempts to mechanize this process were made over the span of a number of years. Beginning in 1979, the "RALSNEGM" (Working [Razrabotka] of Ice, Snow, and Frozen Soils [in mining]) OKB [Special Design Bureau] of the Gorkiy Polytechnical Institute carried on the development of a set of ice-chopping machines [agregaty] under contract. However, the scientists were compelled to discontinue the development in view of the poor prospects, although we had spent 52,000 rubles on the research. Maritime fleet institutes offer us nothing.

SVUMF specialists, with their own capabilities, have developed and introduced a technology for repairing and replacing propellers and propeller shafts by the ship-trimming method, without putting a ship in a dry dock. This yields an economic benefit of up to 70,000 rubles for just one motor ship, and enables the ship to go to sea after two 24-hour days.

We have introduced yet another innovation--afloat teams [plavayushchiye brigady]. Specialists of the ship-repair shops travel out to points in the polar seas and provide effective assistance to ships' crews in maintaining their ships in good operating condition and putting them into the winter laying up without repair. We are planning to extend the afloat teams' zone of activity, and we are not limiting ourselves just to the Arctic-Basin zone; we also are going into the Far Eastern Basin, where SVUMF ships operate in the winter and spring. Such a team, of five men, has worked today aboard the ice-breaker Semen Chelyuskin.

Now we are completing technical re-equipping of the ship-repair shops. The mechanical [mekhanicheskiy], ship-fitting, engine, and heating [termicheskiy] sections, and living quarters, have been accommodated on the basis of a set [blok] of spaces made from two "Kansk-" type warehouses. However, we need two more such warehouses, where we shall be able to accommodate the hull, welding, electrical equipment, and forging sections. What is more, research into the construction of a ship-raising facility at Tiksi has been included in the plan of the "Lennorniproyekt" ["Leningrad Branch, State Planning, Designing, and Scientific Research Institute for Maritime Transport"] for the 12th 5-Year Plan, in order to improve the dry-docking operations. We hope that this serious problem will be resolved favorably.

Taking the growth in freight carriages for regions of the Far North into account, the Ministry of the Maritime Fleet recently approved measures to build up the SVUMF's material and technical base. It is planned to augment the fleet,

and provision is made to construct a transshipment complex, a deep-water approach channel, a set of living quarters, a shop for making pallets, purging facilities, an athletic and cultural complex with a swimming pool, and large apartment houses just in Port Tiksi, a dormitory in Pevek, and kindergartens in Tiksi and Cherskiy.

The program for construction and renovation of SVUMF elements [podrazdeleniya] is a large one, and its implementation will remove a good many problems and ease the Arctic seamen's work and life. It is important now for "Arktikstroy" ["Arctic Construction"] and the MMF administrations not to put this matter off indefinitely. Substantial amounts of work also are being loaded onto our collective. I think we shall be able to cope with them.

However, there also are problems which must be resolved as soon as possible. We consider that the need has become inescapable to replace SVUMF ships of the Kishinev class with a fleet of the ice-reinforced class. These are motor ships of the Vitaliy Dyakonov class. They have recommended themselves well in the Arctic. It is advisable to replace supply ships [snabzhentsy] of the Abruka and Ilichevsk classes with motor ships of the Vavchuga class. The tankers of the Inzhener Pustoshkin class are obsolete and worn-out. Many efforts and much money are expended on their restoration and maintenance. Here we need tankers of the Oleg Koshevoy class. For the time being, considering the sameness of class of the SVUMF ships going into the Far Eastern Basin, it would be worthwhile to assign them to one of the Far East's ship-repair yards [zavody] for repair. It would be best if that were the Sovetskaya Gavan yard, where quite a bit of experience has been acquired in working with our ships.

Supply matters also worry us. We are cut off from the maritime fleet's main bases almost year round. The point is that the norm for supplies, established many years ago by the USSR Gosplan [State Planning Committee], does not, by any means, always hold out. Construction materials, spare parts, pipes, fittings, and high-quality paints constantly are in short supply. At the same time, a considerable quantity of parts, equipment, and materials that we do not need accumulates in the SVUMF warehouses. I think that it would be far more profitable for the enterprises and the country's national economy if the issue of exchange of materials and spare parts among enterprises of different departments were resolved. Indeed, besides us, there are no more seamen in the Central and Eastern Arctic. And, in the warehouses, there already is quite a lot of surplus property and above-norm supplies. There is no place to put them.

Just now, our collective is completing its preparations for the shift to the new management conditions. We are trying to resolve the critical issues and problems correctly. That, in its turn, will permit us to operate better and more effectively in the new way next year.

MARITIME AND RIVER FLEETS

INSTITUTE DEVELOPING 'WALKING' ATV

Moscow IZVESTIYA in Russian 21 Sep 86 p 6

[Article from Leningrad by L. Frolov under the "From the Place of the Event" rubric: "Both on Water--And on Land"; first paragraph is boldface introduction]

[Text] Having glided over the water, the platform reached the shore and...began to walk on dry land. The telescopic supports stood up on the sandy soil. "Walking," they moved the hull, with cargo secured to it.

At the moment, the new means of transport is far from making long marches--just now it faces test runs. Specialists of the Central NII [Scientific Research Institute] for the Maritime Fleet have begun model-testing the all-terrain vehicle [vezdekhod], meant for operation in hard-to-reach areas of the North and Far East.

Such equipment is intended to improve the servicing of small polar stations and settlements of geologists and fishermen located on the shores of shallow bodies of water. The laboratory investigations and theoretical calculations speak, however, of the walking vehicle's [shagokhod's] substantially great capabilities. It can operate not only near the shore, but also can move away into the coastal zone's interior for a considerable distance. Such trips are necessary, for example, in order to deliver the large modular sections [blok-modulya], from which, as from a child's building blocks, the apartment buildings and industrial complexes will be assembled at remote [oil] fields. The design of the hydraulic legs permits walking, not hurriedly (3 kilometers per hour), but assuredly.

"Such platforms will improve the region's transport servicing," considers one of the development's originators, Doctor of Technical Sciences I. Miroschnichenko. "The important thing is that the shallow water will not permit large-load vessels to operate here, and the shore's steepness--air-cushion devices. Helicopters are dependent upon the weather, and their operation is expensive. Such limitations in no way apply to our design, which, with relatively little weight of its own, has a large load capacity. The platforms' use will extend the geography of communications, and expedite freight delivery."

9 January 1987

MARITIME AND RIVER FLEETS

AIR CUSHION ATV INTENDED FOR USE AS AMBULANCE

Moscow IZVESTIYA in Russian 28 Sep 86 p 1

[Report of telephonic interview with Mikhail Sergeyevich Mikhaylovskiy, section chief, USSR Ministry of Health Scientific Research and Testing Institute for Medical Equipment, by IZVESTIYA correspondent G. Alimov: "Both on Water and on Land"; date of interview not given; first paragraph is boldface introduction]

[Text] An unusual "ambulance" vehicle [mashina "skoroy pomoshchi"]--a boat all-terrain vehicle [kater-vezdekhod]--has been shipped to Tomsk, to the Siberian Branch of the All-Union Cardiology Scientific Center, for trials. Our correspondent telephoned M. Mikhaylovskiy, section chief of the USSR Ministry of Health's Scientific Research and Testing Institute for Medical Equipment.

[G. Alimov] What kind of invention is it, Mikhail Sergeyevich?

[M. Mikhaylovskiy] Such vehicles have never been in use. Several years ago, we were given the task of creating an "ambulance" vehicle in water transport. It is specially intended for the hard-to-reach areas of Siberia, the Far East, and the Far North. You, yourself, know that conditions there are such that it is impossible to use the customary transportation--the RAP's [minibusses, or vans, made by the Riga Autobus Plant] and UAZ's [vehicles made by the Ulyanovsk Motor Vehicle Plant]--everywhere. You don't build landing strips for aircraft and pads for helicopters everywhere. Our air-cushion boat [kater na vozdushnoy podushke], as equipment trials have shown, suits the places of its future operation perfectly. It will be an indispensable tool during river floods, in the area's states of great marshiness.

[G. Alimov] What are its capabilities?

[M. Mikhaylovskiy] It is capable of operating year round, and in any weather....

[G. Alimov] You did not qualify your statement: That, indeed, is a boat. How will you use it, let us say, in winter?

[M. Mikhaylovskiy] No problems whatsoever. It can get through on water, on ice, and on reeds, on drift ice, on marshland, and on snow. Even on dry land, although it really is not intended for that. However, we have kept in mind that the boat will have to "step over" from one body of water to another. In a word, this boat is an all-terrain vehicle [vezdekhod] in the most straightforward sense of the word.

[G. Alimov] What is it like?

[M. Mikhaylovskiy] The vehicle is 15 meters long and almost 4 meters wide. One driver-mechanic operates it, and its medical personnel will consist of three persons. Two bed spaces for the sick, and four sitting, are provided for in the boat. The size of the passenger space [salon] is practically half again as large as the "raffy's" ["rafik's"--affectionate term for RAF's] passenger space. Minor operations can be performed on board, too. There is a complete life-support system on the boat--a fixed temperature, air sterility, and the like are maintained.

[G. Alimov] Judging by its equipment and load capacity, the boat is not a small one....

[M. Mikhaylovskiy] Right. In this sense it leaves present-day "ambulance" vehicles far behind--1,200 kilograms. And its speed is adequate: 60 kilometers per hour on water, and 70 on ice.

[G. Alimov] How many such boats will be produced?

[M. Mikhaylovskiy] The demand is great. So far, we have made only the one, which is "riding" to Tomsk on the train right now. The medical trials should show whether we have provided for everything. The second boat will be put out next year. Then, already, a series....

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